

*First Semi-Annual 2011 Groundwater Monitoring and
LNAPL Removal Report
Terminal 4 Slip 3 Upland Facility
Portland, Oregon*

Prepared for:
Port of Portland

August 15, 2011
1007-03



Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

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1.0 Introduction

This semi-annual report (Report) describes the results of groundwater monitoring and light non-aqueous phase liquid (LNAPL) monitoring and removal at the Terminal 4 Slip 3 Upland Facility (the Facility; see Figure 1) during the first half of 2011. This work was completed in accordance with the *LNAPL Removal, Groundwater Monitoring, and Contingency Plan* (Monitoring Plan; BBL/Ash Creek/Newfields, 2005b) and the *Site Closure Evaluation and Recommendation – Groundwater* (Ash Creek, 2009). The monitoring activities are part of a required remedial action for the Facility defined in the *Record of Decision* (ROD; Oregon Department of Environmental Quality [DEQ], 2003) and the *Explanation of Significant Difference* (DEQ, 2004). The Monitoring Plan was prepared pursuant to Attachment C (Scope of Work [SOW]) Item II.I of the *Consent Judgment* (Circuit Court of Oregon, 2004) between the DEQ and the Port of Portland (Port).

1.1 Scope

The specific tasks that are described in this Report include:

- Groundwater monitoring conducted in June 2011, including collection of groundwater levels for estimating hydraulic gradients and groundwater samples for chemical analysis; and
- LNAPL monitoring and recovery from January through June 2011.

1.2 Report Organization

The report text provides background information on the Facility (Section 2), the results of the LNAPL removal program (Section 3), and the results of the groundwater monitoring program (Section 4). Supporting information is provided in the tables, figures, and appendices. Appendix A presents the field and quality assurance/quality control (QA/QC) procedures; field notes from the groundwater and LNAPL monitoring events are also included in Appendix A. Appendix B contains the data QA/QC review and analytical laboratory report. LNAPL thickness and removal volume trend plots are included in Appendix C. Appendix D contains chemical trend plots.

2.0 Background

2.1 Facility Location and Description

The Facility is part of the Port Marine Terminal 4 located at 11040 North Lombard Street in Portland, Oregon (Figure 1). Terminal 4 encompasses about 260 acres along the eastern bank of the Willamette River, near river mile 5. Figure 2 provides a Facility vicinity plan showing the boundaries of the Facility in relation to surrounding properties, and Figure 3 shows a Facility plan. The Facility is generally bounded on the north

by Terminal 4 Slip 1 (T4S1), on the west by the Willamette River, on the south by the Toyota Automobile Receiving Area, and on the east by the former Union Pacific Railroad (UPRR) tank farm facility.

The Facility is generally flat at an average elevation of about 35 feet above mean sea level (MSL). The river water elevation is typically less than 10 feet above MSL and is subject to a mean tidal range of about 2 feet (Hart Crowser, 2000). Immediately east of the Facility, the ground surface rises at about a 15-percent grade to an elevation of about 100 feet.

2.2 Geology

Lithologic logs and geologic cross-sections indicate that the Facility is underlain by approximately 10 to 30 feet of sandy fill. The sandy fill has been described as fine- to medium-grained sand with some coarse sand and fine gravel, and relatively few fines (BBL/Ash Creek/Newfields, 2006; Hart Crowser, 2000). The sandy fill is underlain by alluvium. A laterally continuous layer of silt makes up the top of the alluvium. The silt varies in thickness from approximately 2 to 5 feet or more. This silt layer appears to be hummocky with a general slope towards the river; the silt layer rises sharply to the surface beyond the eastern boundary of the Facility and a "mound" in the silt is present in the northwestern portion of the Facility. Below the silt layer, the alluvium is comprised of layers of silt, sandy silt, silty sand, and sand, which do not appear to be laterally continuous for significant distances.

2.3 Hydrogeology

Depth to shallow groundwater in the central portion of the Facility has generally ranged from 12 to 24 feet below ground surface (bgs) during the past 10 years (BBL/Ash Creek/Newfields, 2006). Potentiometric maps from periodic water level measurements collected during the past 10 years indicate a general site-wide gradient towards the river (BBL/Ash Creek/Newfields, 2006). However, gradients are highly variable in the center portion of the Facility, often indicating groundwater flow directions away from the river or to the north or south.

Older wells installed at the Facility (designated by "MW") are screened within both the sandy fill and the alluvial unit (Century West, 1994). Groundwater levels drop below the sandy fill in many of these wells during the dry season and times when river levels are low (Hart Crowser, 2000). Groundwater levels measured in shallow wells screened only within the sandy fill (e.g., HC-16 and HC-23) are several feet higher than in adjacent MW wells, suggesting the silty layer at the top of the alluvial unit acts to separate two groundwater zones: one above and one below the silt layer. The upper groundwater zone is "perched" on the silt layer.

2.4 Remedial Action Status

The *Consent Judgment* requires remedial action at the Facility consisting of the following elements:

- 1) Excavation of soil Hot Spots;
- 2) Manual recovery of LNAPL from groundwater wells;
- 3) Excavation of riverbank soils;
- 4) Capping of certain surface soil containing polycyclic aromatic hydrocarbons (PAHs);
- 5) Implementation of a Contaminated Media Management Plan (CMMP);
- 6) Source control actions to address pencil pitch in surface soils; and
- 7) Compliance monitoring.

This Report presents the status of ongoing Items 2 and 7. Item 1 and a portion of Item 6 (Head of Slip 3 source control measure) were completed in 2009. The remainder of Item 6 (riverbank and South Slip Bank source control measures) will be addressed in a future action. Item 4 will be completed in a future action in association with site development. The CMMP (Item 5) will be finalized in 2011. Item 3 was completed in 2004 and is identified as the "BEBRA". In fall 2008, the Head of Slip 3 cap was installed, a portion of which overlays the BEBRA. The Head of Slip 3 cap contains an organoclay layer that adsorbs petroleum hydrocarbons. That layer is downgradient of the BEBRA monitoring wells.

3.0 LNAPL Monitoring and Removal Program

The SOW of the *Consent Judgment* (Circuit Court of Oregon, 2004) requires periodic removal of LNAPL from existing wells. The following describes the results of the LNAPL monitoring and removal program for the first half of 2011. A more detailed description of the procedures used is provided in Appendix A.

3.1 LNAPL Monitoring and Removal

During each LNAPL monitoring event, the LNAPL was removed from wells MW-19 and MW-20 by manually draining the skimmers and reinstalling the skimmers in the wells (after adjusting the cables to account for changes in water table elevation). If additional product was present in the wells following skimmer removal (i.e., if the volume of product encountered in the well was larger than the storage capacity of the skimmer), the product was manually removed using a peristaltic pump before the skimmer was reinstalled. LNAPL was removed manually from wells HC-10, BE-4, MW-15, and MW-17. The results of each LNAPL monitoring event (i.e., product removal volumes) are summarized in Table 1.

The *Site Closure Evaluation and Recommendation – Groundwater* (Ash Creek, 2009) specified that LNAPL monitoring/removal will continue as long as the total recovery rate is greater than 50 gallons per year. After

the total recovery rate falls below 50 gallons per year, individual wells will continue in the LNAPL monitoring/removal program until: (1) the trend in recovery rate is downward, or (2) the recovery rate is less than 5 gallons per year.

Approximately 42 gallons of LNAPL were removed from the regularly monitored wells during the first six months of 2011 (0.0 gallon from BE-4, 0.5 gallon from MW-15, 2.25 gallons from HC-10, 9.35 gallons from MW-17, 12.35 gallons from MW-19, and 11.45 gallons from MW-20; see Table 2 and Figure 4). The 42-gallon total volume includes 6.5 gallons recovered in February during a high vacuum extraction event (via vacuum truck).

The LNAPL is collected in a Department of Transportation (DOT)-approved 55-gallon drum for temporary storage pending off-site recycling.

3.2 BEBRA Observations

The Slip is inspected for the presence of sheen in the area of the BEBRA during each LNAPL monitoring event. Sheens were not observed on water in the Slip during the June 2011 event.

LNAPL has not been observed in the wells installed within the BEBRA area (i.e., wells BE-1, BE-3, and BE-5).

4.0 Groundwater Monitoring

On June 9, 2011, water levels were measured in the monitoring wells included in the groundwater elevation monitoring network. On June 9 and 10, 2011, groundwater samples were collected from the monitoring wells included in the groundwater sampling/analysis monitoring network. The groundwater elevation and sampling/analysis well networks are defined in the Monitoring Plan and listed below in Sections 4.1 and 4.2, respectively. Please refer to Appendix A for a detailed discussion of the field and sampling procedures.

4.1 Groundwater Level Measurements

Depths to groundwater and LNAPL (if present) were measured in wells HC-5, HC-10, HC-19, HC-21, HC-23, HC-24, MW-8, MW-14, MW-15, MW-17, MW-19, MW-20, BE-3, BE-4, and BE-5. Water levels were measured for the purpose of determining groundwater elevations and gradients using an electronic interface probe. Measured depths to groundwater and estimated groundwater elevations are summarized in Table 3. Groundwater elevations are shown on Figure 5. On June 9, 2011, well BE-1 was submerged due to high river levels. Ash Creek gauged and sampled well BE-1 on June 21, 2011 when river levels decreased.

4.2 Groundwater Sampling

Groundwater samples were collected from wells HC-19, HC-21, HC-24 BE-1, BE-3, and BE-5 (in accordance with the Monitoring Plan, samples were not collected from well BE-4 due to the presence of LNAPL). As mentioned above, BE-1 was sampled approximately two weeks after the primary sampling event. HC-24 was sampled after the use of petroleum indicating paste confirmed that no LNAPL sheen was present.

Purging. After depths to groundwater were measured, the wells were purged using a peristaltic pump. Wells BE-1 and BE-3 purged dry and were allowed to recover before sampling. Sampling of well BE-3 was completed during the first day of the event, while sampling of well BE-1 was conducted on June 21, 2011, once the well was accessible.

Sample Collection. After purging was completed, the wells were sampled. Groundwater samples were submitted under chain-of-custody (COC) protocols to TestAmerica Laboratories of Beaverton, Oregon for chemical analyses. Samples were collected and handled in accordance with the procedures presented in Appendix A.

4.3 Chemical Analytical Results

Groundwater samples collected from the monitoring wells were analyzed for PAHs using U.S. Environmental Protection Agency (EPA) Method 8270M-SIM, and for diesel- and heavy oil (residual)-range petroleum hydrocarbons (TPH-Dx) using Northwest Total Petroleum Hydrocarbons (NWTPH-Dx) Method with silica gel cleanup. Table 4 lists the results of the June 2011 groundwater sample analyses and includes the results from previous groundwater sampling events. For reference, the ROD compliance criteria have been included in the table. Figure 6 presents the results for total petroleum hydrocarbons (TPH) and total PAHs for each sampled well. The data quality review and the laboratory report are included in Appendix B.

In accordance with the Monitoring Plan, silica gel cleanup is completed on samples analyzed for TPH-Dx (using EPA Method 3630M). However, prior to 2006, the analytical laboratory did not complete silica gel cleanup on the samples collected from the "BE" wells, due to insufficient sample volume. Subsequent results of TPH-Dx analyses on samples from these wells (which have included a silica gel cleanup) have shown a significant decrease in concentrations, supporting that earlier results included organic interference.

Due to limited water in the "BE" wells, it is consistently difficult to obtain sufficient sample volumes to complete all of the analyses of the Monitoring Plan. Therefore, it was recommended to and accepted by the DEQ that sample collection would occur over a 2-day period to maximize the volume of groundwater for sample collection from these wells. In addition, priority was given to completing analysis for PAHs, followed by completing analysis for TPH.



4.4 Evaluation of First Semi-Annual Results

Plots of LNAPL thickness and recovery versus time are included in Appendix C. Table 2 summarizes the LNAPL recovery from January through June, 2011. Plots of chemical concentrations versus time for selected chemicals and wells are included in Appendix D. Results for BE-5 are plotted together with BE-2.

LNAPL Recovery. LNAPL was not observed in any of the wells within the BEBRA area (wells BE-1, BE-3, and BE-5) during the first semi-annual event of 2011. LNAPL at thicknesses of 0.04 foot or less were observed in well BE-4, upgradient of the BEBRA area. Product levels were monitored and/or removed as appropriate from wells BE-4, HC-10, MW-15, MW-17, MW-19, and MW-20 on a monthly schedule, as described in Section 3.1. Approximately 42 gallons of product were removed during the first six months of 2011. The greatest total LNAPL recovered from any single well in first half of 2011 was approximately 12.5 gallons (MW-19), compared to the compliance criterion of 5 gallons per year. The total volume recovered during the first six months of 2011 was biased slightly high by the high vacuum extraction event (via vacuum truck) completed in February. Approximately 6.5 gallons of recovered LNAPL was estimated from product thickness measurements collected from the vacuum truck. Overall, the total volume to date for 2011 was generally consistent with the LNAPL recovery during the period 2006 through 2008.

BEBRA Compliance Well Analytical Results. TPH as diesel was detected at concentrations below the ROD compliance criteria in each of the BEBRA wells sampled during the first semi-annual 2011 event. The ROD compliance criteria apply to groundwater at the point of compliance (POC) at the groundwater/surface water interface. The wells are installed upgradient from the interface. Furthermore, the Head of Slip 3 cap (containing a treatment medium to remove petroleum hydrocarbons) is present between the wells and Slip 3. Wells BE-1, BE-3, and BE-5 were non-detect for PAHs during the event.

Well BE-5 was installed in 2009 to replace BE-2, which was destroyed during construction of the Head of Slip 3 cap. The analytical modeling results for data from BE-2 indicated that the data are likely biased high and suggest that chemical concentrations in BE-2 were likely at or below concentrations that meet compliance levels at the POC (Ash Creek, 2009). The DEQ-approved compliance criteria for BE-5 are as follows:

- 1) Contaminants of concern are below compliance levels for two successive rounds of monitoring; or
- 2) If detected above compliance levels in Table 1, concentrations of BAA and BAP are each less than 1 µg/L (a conservative sentinel well equivalent compliance level determined from modeling) and a downward trend is established for four successive rounds of sampling.

The results for BE-5 plotted together with BE-2 (Appendix D) demonstrate a downward trend, thereby meeting the criteria for Item 2.

4.5 Conclusions and Recommendations

The first semi-annual sampling event of 2011 occurred on June 9 and 10, 2011, with the exception of well BE-1 which was sampled on June 21, 2011 (due to high river stage). Based on results to date, compliance criteria have been met except as follows:

- Site-wide LNAPL recovery in the first half of 2011 was approximately 42 gallons, which is a significant reduction over the 105 gallons which were removed in the first six months of 2010.
- In the first half of 2011, LNAPL recovery from three wells (MW-17, MW-19, and MW-20) was greater than the individual well compliance criterion of 5 gallons per year.

Groundwater sampling in the BEBRA area will be terminated when the following are achieved:

- 1) LNAPL removal has been terminated;
- 2) Concentrations of chemicals analyzed are below compliance levels at the POC (using the sentinel wells as surrogates for the POC) for a continuous period of at least one year or per the criteria for BE-5 noted above in Section 4.4. The concentrations of TPH and BAA and BAP in wells BE-1, BE-3, and BE-5 were below the ROD compliance criterion for the first semi-annual 2011 event;
- 3) There is no sheen or LNAPL at the POC; and
- 4) Concentration trends in monitoring wells are stable or declining for a continuous period of at least three years.

Items 2, 3, and 4 have been achieved. LNAPL removal will continue until the compliance criteria have been met.

5.0 References

Ash Creek, 2009. Site Closure Evaluation and Recommendation – Groundwater, Terminal 4 Slip 3 Upland Facility. May 14, 2009.

BBL/Ash Creek/Newfields, 2005a. Construction Completion Report, Bank Excavation and Backfill Remedial Action. March 1, 2005.

BBL/Ash Creek/Newfields, 2005b. LNAPL Removal, Groundwater Monitoring, and Contingency Plan, Terminal 4 Slip 3 Upland Facility. June 16, 2005.

BBL/Ash Creek/Newfields, 2006. Quarterly Report – Fourth Quarter 2005, Terminal 4 Slip 3 Upland Facility. February 22, 2006.

Century West, 1994. Remedial Investigation Report, Terminal 4. January 1994.

Circuit Court of Oregon, Multnomah County, 2004. Consent Judgment – State of Oregon v. Port of Portland. October 7, 2004.

DEQ, 2003. Record of Decision, Port of Portland Terminal 4 Slip 3 Upland. April 21, 2003.

DEQ, 2004. Explanation of Significant Difference, Port of Portland Terminal 4 Slip 3 Upland Facility. September 1, 2004.

Hart Crowser, 2000. Remedial Investigation Report, Terminal 4 Slip 3 Upland, Port of Portland, Portland, Oregon. January 21, 2000.



TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-1 (29.93)	27-Aug-2003	22.35	21.69	0.66	8.17	0.50	0.50	0.04
	3-Sep-2003	21.98	21.81	0.17	8.10	0.25	0.75	< 0.01
	11-Sep-2003	21.84	21.82	0.02	8.11	Trace	0.75	< 0.01
	17-Sep-2003	22.00	21.92	0.08	8.00	Trace	0.75	< 0.01
	30-Sep-2003	21.88	21.81	0.07	8.11	Trace	0.75	0.01
	14-Oct-2003	21.03	21.00	0.03	8.93	Trace	0.75	0.01
	29-Oct-2003	21.93	21.85	0.08	8.07	0.25	1.00	0.00
	13-Nov-2003	21.95	21.93	0.02	8.00	Trace	1.00	0.00
	26-Nov-2003	21.84	21.83	0.01	8.10	Trace	1.00	< 0.01
	24-Dec-2003	21.05	21.04	0.01	8.89	Trace	1.00	0.01
	21-Jan-2004	20.92	20.89	0.03	9.04	Trace	1.00	0.01
	25-Feb-2004	21.39	20.57	0.82	9.27	0.50	1.50	0.01
	10-Mar-2004	21.22	20.91	0.31	8.99	0.15	1.65	0.01
	24-Mar-2004	21.45	20.90	0.55	8.97	0.30	1.95	0.01
MW-2 (30.05)	27-Aug-2003	19.73	19.17	0.56	10.82	0.50	0.50	0.02
	3-Sep-2003	19.41	19.29	0.12	10.75	0.10	0.60	0.01
	11-Sep-2003	19.44	19.38	0.06	10.66	0.10	0.70	0.01
	17-Sep-2003	19.59	19.49	0.10	10.55	0.10	0.80	0.02
	30-Sep-2003	19.46	19.38	0.08	10.66	0.10	0.90	0.01
	14-Oct-2003	19.71	19.56	0.15	10.47	0.10	1.00	0.01
	29-Oct-2003	19.69	19.55	0.14	10.48	0.25	1.25	0.00
	13-Nov-2003	19.65	19.63	0.02	10.42	Trace	1.25	0.00
	26-Nov-2003	19.51	19.50	0.01	10.55	Trace	1.25	< 0.01
	24-Dec-2003	18.47	18.34	0.13	11.70	Trace	1.25	0.02
	30-Dec-2003	18.50	18.40	0.10	11.64	0.10	1.35	0.03
	9-Jan-2004	18.30	17.95	0.35	12.06	0.10	1.45	0.01
	15-Jan-2004	18.19	17.88	0.31	12.14	0.10	1.55	0.01
	21-Jan-2004	18.10	17.95	0.15	12.08	0.10	1.65	0.01
	29-Jan-2004	18.20	17.70	0.50	12.30	0.20	1.85	0.01
	3-Feb-2004	18.20	17.71	0.49	12.29	0.20	2.05	0.01
	12-Feb-2004	18.34	17.81	0.53	12.18	0.30	2.35	0.02
	18-Feb-2004	18.30	17.84	0.46	12.16	0.30	2.65	< 0.01
	25-Feb-2004	17.98	17.85	0.13	12.19	0.10	2.75	< 0.01
	3-Mar-2004	18.10	18.00	0.10	12.04	Trace	2.75	< 0.01
	10-Mar-2004	18.15	18.03	0.12	12.01	0.03	2.78	< 0.01
	18-Mar-2004	18.45	18.12	0.33	11.89	0.20	2.98	0.01
	24-Mar-2004	18.60	18.15	0.45	11.85	0.25	3.23	0.01
	1-Apr-2004	18.55	18.00	0.55	11.99	0.30	3.53	0.01
MW-3 (30.09)	27-Aug-2003	20.85	20.82	0.03	9.27	Trace	Trace	< 0.01
	3-Sep-2003	20.91	20.89	0.02	9.20	Trace	Trace	0.01
	11-Sep-2003	20.94	20.92	0.02	9.17	Trace	Trace	0.01
	17-Sep-2003	21.04	21.00	0.04	9.09	Trace	Trace	0.01
	30-Sep-2003	19.89	19.85	0.04	10.24	Trace	Trace	0.01
	14-Oct-2003	21.95	21.83	0.12	8.25	Trace	Trace	0.01
	29-Oct-2003	21.02	21.00	0.02	9.09	Trace	Trace	0.00
	13-Nov-2003	21.07	21.06	0.01	9.03	Trace	Trace	0.00
	26-Nov-2003	21.00	20.99	0.01	9.10	Trace	Trace	< 0.01
	24-Dec-2003	19.85	19.84	0.01	10.25	Trace	Trace	< 0.01
	21-Jan-2004	19.32	19.28	0.04	10.81	Trace	Trace	0.01
	25-Feb-2004	19.15	19.13	0.02	10.96	NA	Trace	0.02
	24-Mar-2004	19.86	19.80	0.06	10.28	NA	Trace	0.06
MW-8 (31.13)	27-Aug-2003	20.38	NA	0.00	10.75	NA	NA	0.00
	3-Sep-2003	20.45	NA	0.00	10.68	NA	NA	0.00
	11-Sep-2003			Not Accessible		NA	NA	NA
	17-Sep-2003			Not Accessible		NA	NA	NA
	30-Sep-2003			Not Accessible		NA	NA	NA
	14-Oct-2003			Not Accessible		NA	NA	NA
	29-Oct-2003			Not Accessible		NA	NA	NA
	13-Nov-2003	21.15	NA	0.00	9.98	NA	NA	0.00
	26-Nov-2003	21.05	NA	0.00	10.08	NA	NA	0.00
	24-Dec-2003	19.18	NA	0.00	11.95	NA	NA	0.00
	21-Jan-2004	18.70	NA	0.00	12.43	NA	NA	0.00
	25-Feb-2004	15.69	NA	0.00	15.44	NA	NA	0.00
	24-Mar-2004	16.66	NA	0.00	14.47	NA	NA	0.00
	14-Jan-2005	20.60	NP	0.00	10.53	NP	NP	0.00
	28-Jan-2005	20.25	20.23	0.02	10.90	0.0	0.0	0.02
	25-Feb-2005	20.52	NP	0.00	10.61	0.00	0.00	0.00
	25-Mar-2005	20.88	20.88	0.00	10.25	0.00	0.00	0.00
	30-Apr-2005	20.20	NP	0.00	10.93	0.00	0.00	0.00
	31-May-2005	19.40	NP	0.00	11.73	0.00	0.00	0.00
	24-Jun-2005	19.67	NP	0.00	11.46	0.00	0.00	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-8 <i>(continued)</i>	29-Jul-2005	20.22	NP	0.00	10.91	0.00	0.00	0.00
	26-Aug-2005	20.67	NP	0.00	10.46	0.00	0.00	0.00
	24-Sep-2005	21.10	NP	0.00	10.03	0.00	0.00	0.00
	21-Oct-2005	21.25	NP	0.00	9.88	0.00	0.00	0.00
	28-Nov-2005	20.89	NP	0.00	10.24	0.00	0.00	0.00
	3-Jan-2006	17.45	NP	0.00	13.68	--	--	--
	17-Feb-2006	15.35	NP	0.00	15.78	--	--	--
	19-Sep-2006	21.06	NP	0.00	10.07	--	--	--
	13-Dec-2006	18.73	NP	0.00	12.40	--	--	--
	29-Mar-2007	15.71	NP	0.00	15.42	0.00	0.00	0.00
	27-Jun-2007	19.26	NP	0.00	11.87	0.00	0.00	0.00
	18-Sep-2007	20.99	NP	0.00	10.14	0.00	0.00	0.00
	6-Dec-2007	NA	NA	NA	NA	NA	NA	NA
	10-Mar-2008	17.19	SHEEN	0.00	13.94	0.00	0.00	0.00
	12-Jun-2008	16.92	NP	0.00	14.21	0.00	0.00	0.00
	8-Sep-2008	20.53	NP	0.00	10.60	0.00	0.00	0.00
	29-Dec-2008			Unable to Gauge; Under Large Puddle of Water				
	10-Mar-2009	19.70	NP	0.00	11.43	0.00	0.00	0.00
	4-Jun-2009	18.41	NP	0.00	12.72	0.00	0.00	0.00
	9-Sep-2009	21.05	NP	0.00	10.08	0.00	0.00	0.00
	15-Dec-2009			Unable to Gauge; Under Large Puddle of Water				
	11-Mar-2010	18.83	NP	0.00	12.3	0.00	0.00	0.00
	8-Jun-2010	15.71	NP	0.00	15.42	0.00	0.00	0.00
	16-Sep-2010	20.28	20.27	0.01	10.86	0.00	0.00	0.00
	15-Dec-2010	15.59	NP	0.00	15.54	0.00	0.00	0.00
	9-Jun-2011	14.84	NP	0.00	16.29	0.00	0.00	0.00
MW-10 <i>(30.18)</i>	27-Aug-2003	18.72	18.68	0.04	11.50	Trace	Trace	0.04
	3-Sep-2003	18.83	18.75	0.08	11.42	Trace	Trace	0.02
	11-Sep-2003	19.12	19.04	0.08	11.13	Trace	Trace	0.01
	17-Sep-2003	19.22	19.15	0.07	11.02	Trace	Trace	0.01
	30-Sep-2003	19.18	19.12	0.06	11.05	Trace	Trace	0.01
	14-Oct-2003	19.77	19.71	0.06	10.46	Trace	Trace	0.01
	29-Oct-2003	19.37	19.31	0.06	10.86	Trace	Trace	0.00
	13-Nov-2003	19.35	19.32	0.03	10.86	Trace	Trace	0.00
	26-Nov-2003	19.20	19.19	0.01	10.99	Trace	Trace	< 0.01
	24-Dec-2003	16.38	NA	0.00	13.80	NA	Trace	0.00
	21-Jan-2004	16.04	NA	0.00	14.14	NA	Trace	0.00
	25-Feb-2004	14.18	NA	0.00	16.00	NA	Trace	0.00
	24-Mar-2004	14.35	NA	0.00	15.83	NA	Trace	0.00
MW-13 <i>(31.49)</i>	27-Aug-2003	18.74	NA	0.00	12.75	NA	NA	0.00
	3-Sep-2003	18.79	NA	0.00	12.70	NA	NA	0.00
	11-Sep-2003	19.18	NA	0.00	12.31	NA	NA	0.00
	17-Sep-2003	19.25	NA	0.00	12.24	NA	NA	0.00
	30-Sep-2003	19.01	NA	0.00	12.48	NA	NA	0.00
	14-Oct-2003	19.52	NA	0.00	11.97	NA	NA	0.00
	29-Oct-2003	19.40	NA	0.00	12.09	NA	NA	0.00
	13-Nov-2003	19.65	NA	0.00	11.84	NA	NA	0.00
	26-Nov-2003	19.50	NA	0.00	11.99	NA	NA	0.00
	24-Dec-2003	17.97	NA	0.00	13.52	NA	NA	0.00
	21-Jan-2004	17.47	NA	0.00	14.02	NA	NA	0.00
	25-Feb-2004	14.61	NA	0.00	16.88	NA	NA	0.00
	24-Mar-2004	15.91	NA	0.00	15.58	NA	NA	0.00
MW-14 <i>(31.32)</i>	27-Aug-2003	22.23	17.36	4.87	13.42	0.25	0.25	0.10
	3-Sep-2003	21.05	19.99	1.06	11.21	0.10	0.35	0.20
	11-Sep-2003	21.31	20.21	1.10	10.99	Trace	0.35	0.10
	17-Sep-2003	21.42	20.33	1.09	10.87	1.00	1.35	0.11
	30-Sep-2003	23.11	19.71	3.40	11.24	1.50	2.85	0.19
	14-Oct-2003	23.01	19.70	3.31	11.26	1.50	4.35	0.14
	29-Oct-2003	20.60	20.58	0.02	10.74	Trace	4.35	0.00
	13-Nov-2003	20.79	20.73	0.06	10.58	0.10	4.45	0.00
	26-Nov-2003	20.46	20.15	0.31	11.14	0.10	4.55	0.02
	10-Dec-2003	20.51	20.42	0.09	10.89	0.10	4.65	0.01
	24-Dec-2003	19.05	NA	0.00	12.27	NA	4.65	0.00
	21-Jan-2004	17.20	17.19	0.01	14.13	Trace	4.65	< 0.01
	25-Feb-2004	15.51	15.47	0.04	15.85	NA	4.65	0.04
	24-Mar-2004	14.97	14.90	0.07	16.41	NA	4.65	0.07
	14-Jan-2005	21.60	20.00	1.60	11.14	Trace	0.00	1.60
	21-Jan-2005	NA	NA	NA	NA	NA	NA	NA
	28-Jan-2005	20.27	19.00	1.27	12.18	Trace	Trace	< 0.10
	4-Feb-2005	NA	19.55	NA	NA	Trace	Trace	< 0.10
	11-Feb-2005	19.62	19.61	0.01	11.71	Trace	Trace	0.01
	18-Feb-2005	19.64	19.64	0.00	11.68	Trace	Trace	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-14 <i>(continued)</i>	25-Feb-2005	20.03	20.03	0.00	11.29	Trace	Trace	0.00
	25-Mar-2005	20.32	20.32	0.00	11.00	NP	Trace	0.00
	30-Apr-2005	NA	NA	NA	NA	NA	Trace	NA
	13-May-2005	19.25	NP	0.00	12.07	0.00	Trace	0.00
	31-May-2005	18.80	18.80	0.00	12.52	0.00	Trace	0.00
	24-Jun-2005	18.75	18.70	0.05	12.61	0.00	Trace	0.00
	29-Jul-2005	19.92	NP	0.00	11.40	0.00	Trace	0.00
	26-Aug-2005	NA	NA	NA	NA	NA	Trace	NA
	24-Sep-2005	20.52	NP	0.00	10.80	0.00	Trace	0.00
	21-Oct-2005	20.70	NP	0.00	10.62	0.00	Trace	0.00
	28-Nov-2005	20.20	NP	0.00	11.12	0.00	Trace	0.00
	3-Jan-2006	17.98	NP	0.00	13.34	--	--	--
	17-Feb-2006	NA	15.65	NA	NA	NA	NA	NA
	19-Sep-2006	20.43	NP	0.00	10.89	--	--	--
	13-Dec-2006	18.38	NP	0.00	12.94	--	--	--
	29-Mar-2007	17.03	17.01	0.02	14.31	0.00	0.00	0.02
	27-Jun-2007	19.28	18.90	0.38	12.38	2.50	2.50	0.01
	18-Sep-2007	20.46	20.41	0.05	10.90	0.00	2.50	0.05
	6-Dec-2007	15.75	15.75	0.00	15.57	0.00	2.50	0.00
	10-Mar-2008	17.55	SHEEN	0.00	13.77	0.00	0.00	0.02
	12-Jun-2008	15.85	15.80	0.05	15.51	0.00	0.00	0.05
	8-Sep-2008	Well inadvertently not gauged during groundwater monitoring event.						
	29-Dec-2008	13.51	13.50	0.01	17.82	0.00	0.00	0.01
	10-Mar-2009	19.02	19.01	0.01	12.31	0.00	0.00	0.01
	4-Jun-2009	18.26	FILM ON PROBE	0.00	13.06	0.00	0.00	0.00
	9-Sep-2009	20.61		0.00	10.71	0.00	0.00	0.01
	15-Dec-2009	Unable to Gauge; Under Large Puddle of Water						
	11-Mar-2010	18.08	NP	0.00	13.24	0.00	0.00	0.00
	8-Jun-2010	17.07	NP	0.00	14.25	0.00	0.00	0.00
	16-Sep-2010	19.63	NP	0.00	11.69	0.00	0.00	0.00
	13-Dec-2010	15.16	NP	0.00	16.16	0.00	0.00	0.00
	9-Jun-2011	14.99	NP	0.00	16.33	0.00	0.00	0.00
MW-15 <i>(31.32)</i>	27-Aug-2003	19.83	16.23	3.60	14.94	0.00	0.00	0.00
	3-Sep-2003	17.16	16.41	0.75	15.08	0.50	0.50	0.04
	11-Sep-2003	16.98	16.63	0.35	14.90	0.10	0.60	0.02
	17-Sep-2003	17.07	16.77	0.30	14.77	0.30	0.90	0.02
	30-Sep-2003	17.00	16.71	0.29	14.83	0.40	1.30	0.03
	14-Oct-2003	17.74	17.31	0.43	14.21	0.30	1.60	0.02
	29-Oct-2003	17.98	17.50	0.48	14.02	0.50	2.10	0.01
	13-Nov-2003	18.42	18.13	0.29	13.41	0.10	2.20	0.00
	19-Nov-2003	18.10	17.92	0.18	13.63	0.20	2.40	0.02
	26-Nov-2003	18.07	17.88	0.19	13.67	0.10	2.50	< 0.01
	3-Dec-2003	17.19	17.12	0.07	14.44	Trace	4.50	0.02
	10-Dec-2003	18.20	18.10	0.10	13.46	0.10	4.60	0.01
	24-Dec-2003	15.74	15.59	0.15	15.96	Trace	4.60	0.02
	9-Jan-2004	15.86	15.66	0.20	15.89	0.10	4.70	< 0.01
	21-Jan-2004	15.30	15.22	0.08	16.34	Trace	4.70	0.01
	3-Feb-2004	15.69	15.60	0.09	15.96	NA	4.70	0.09
	18-Feb-2004	14.56	14.53	0.03	17.04	NA	4.70	0.03
	25-Feb-2004	14.11	14.10	0.01	17.47	NA	4.70	0.01
	24-Mar-2004	14.72	NA	0.00	16.85	NA	4.70	0.00
	14-Jan-2005	18.25	17.50	0.75	13.99	0.1	0.10	0.10
	21-Jan-2005	17.70	17.15	0.55	14.36	0.5	0.60	0.10
	28-Jan-2005	17.39	17.17	0.22	14.38	0.1	0.65	0.06
	4-Feb-2005	17.38	17.21	0.17	14.34	0.2	0.80	0.01
	11-Feb-2005	17.20	17.09	0.11	14.47	0.05	0.85	0.09
	18-Feb-2005	17.23	17.11	0.12	14.45	0.05	0.90	0.04
	25-Feb-2005	17.42	17.35	0.07	14.21	0.0	0.90	0.07
	4-Mar-2005	17.61	17.51	0.10	14.05	0.2	1.10	0.01
	11-Mar-2005	17.55	17.53	0.02	14.04	0.0	1.10	0.02
	25-Mar-2005	18.05	17.99	0.06	13.57	0.0	1.10	0.06
	14-Apr-2005	17.22	17.14	0.08	14.42	0.0	1.10	0.08
	30-Apr-2005	17.00	16.84	0.16	14.71	0.3	1.35	0.01
	13-May-2005	16.61	16.54	0.07	15.02	0.0	1.35	0.07
	31-May-2005	16.38	16.30	0.08	15.26	0.0	1.35	0.08
	24-Jun-2005	16.50	16.29	0.21	15.26	0.3	1.60	0.01
	8-Jul-2005	16.51	16.40	0.11	15.16	0.3	1.85	0.00
	15-Jul-2005	16.51	16.45	0.06	15.11	0.0	1.85	0.06
	29-Jul-2005	16.79	16.72	0.07	14.84	0.0	1.85	0.07
	26-Aug-2005	17.43	17.39	0.04	14.18	0.0	1.85	0.04
	24-Sep-2005	18.05	17.96	0.09	13.60	0.0	1.85	0.09
	21-Oct-2005	18.58	18.50	0.08	13.06	0.0	1.85	0.08
	28-Nov-2005	17.65	17.45	0.20	14.10	0.05	1.90	< 0.01
	14-Dec-2005	17.19	17.10	0.09	14.46	0.0	1.90	0.09
	3-Jan-2006	16.15	15.98	0.17	15.57	0.5	0.50	0.03
	17-Jan-2006	15.19	15.10	0.09	16.46	0.0	0.50	0.09

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-15 <i>(continued)</i> (31.57)	23-Jan-2006	15.01	14.95	0.06	16.61	0.0	0.50	0.06
	17-Feb-2006	14.35	14.30	0.05	17.26	0.0	0.50	0.05
	19-Sep-2006	18.61	18.01	0.60	13.49	1.3	1.80	0.01
	13-Dec-2006	16.30	15.87	0.43	15.65	1.0	2.80	< 0.01
	29-Mar-2007	15.57	15.22	0.35	16.31	0.25	0.25	0.01
	27-Jun-2007	16.56	16.14	0.42	15.38	2.00	2.25	0.01
	18-Sep-2007	18.26	18.25	0.01	13.32	0.00	2.25	0.01
	6-Dec-2007	17.76	17.48	0.28	14.06	0.30	2.55	0.00
	10-Mar-2008	15.86	15.35	0.51	16.16	0.0	0.00	0.51
	14-Mar-2008	15.56	15.15	0.41	16.37	0.75	0.75	0.01
	13-Jun-2008	16.28	15.73	0.55	15.78	0.66	1.41	SHEEN
	8-Sep-2008	17.67	17.66	0.01	13.91	0.26	1.67	SHEEN
	29-Dec-2008	Unable to Gauge; Under Large Puddle of Water						
	10-Mar-2009	16.35	16.29	0.06	15.27	0.00	0.00	0.06
	4-Jun-2009	17.14	16.18	0.96	15.28	0.00	0.00	0.00
	13-Jul-2009	19.06	18.02	1.04	13.44	1.5	1.5	0.02
	10-Aug-2009	17.92	17.63	0.29	13.91	0.25	1.75	0.01
	9-Sep-2009	18.48	18.35	0.13	13.21	0.2	1.95	SHEEN
	15-Oct-2009	19.34	19.29	0.05	12.27	0	1.95	0.05
	18-Nov-2009	18.7	18.66	0.04	12.91	0	1.95	0.04
	15-Dec-2009	18.45	17.83	0.62	13.67	0.64	2.59	SHEEN
	13-Jan-2010	16.65	16.24	0.41	15.28	0.33	0.33	SHEEN
	21-Jan-2010	16.21	15.91	0.3	15.63	0.3	0.63	SHEEN
	26-Jan-2010	16.06	15.91	0.15	15.64	0.3	0.93	SHEEN
	5-Feb-2010	15.92	15.83	0.09	15.73	0	0.93	0.09
	2-Mar-2010	16.17	15.90	0.27	15.64	0.3	1.23	SHEEN
	12-Mar-2010	15.81	15.67	0.14	15.88	0.3	1.53	0.01
	25-Mar-2010	15.70	15.65	0.05	15.91	0	1.53	0.05
	2-Apr-2010	15.89	15.84	0.05	15.72	0	1.53	0.05
	9-Apr-2010	15.57	15.57	0	16.00	0	1.53	0
	16-Apr-2010	15.72	15.52	0.2	16.03	0.5	2.03	SHEEN
	23-Apr-2010	15.94	15.85	0.09	15.71	0	2.03	0
	4-May-2010	15.89	15.83	0.06	15.73	0	2.03	0.06
	8-Jun-2010	15.61	15.55	0.06	16.01	0	2.03	0.06
	9-Jul-2010	15.78	15.53	0.25	16.01	0.25	0.25	0.01
	23-Jul-2010	15.85	15.76	0.09	15.80	0	0.25	0.09
	6-Aug-2010	16.19	15.92	0.27	15.62	0.25	0.5	SHEEN
	19-Aug-2010	16.23	16.15	0.08	15.41	0	0.5	0
	27-Aug-2010	16.40	16.22	0.18	15.33	0.25	0.75	0.07
	17-Sep-2010	16.74	16.62	0.12	14.94	0.25	1.0	SHEEN
	8-Oct-2010	17.30	17.23	0.07	14.33	0.00	0.00	0.07
	11-Nov-2010	17.19	17.10	0.09	14.46	0.00	0.00	0.09
	15-Dec-2010	15.85	15.64	0.21	15.91	0.50	0.50	0.04
	21-Dec-2010	15.60	15.47	0.13	16.09	0.50	1.00	0.02
	30-Dec-2010	15.45	15.32	0.13	16.24	0.50	1.50	0.02
	6-Jan-2011	15.23	15.19	0.04	16.38	0.05	0.05	0.01
	13-Jan-2011	14.66	14.62	0.04	16.95	0.00	0.05	0.04
	19-Jan-2011	14.99	14.94	0.05	16.62	0.00	0.05	0.05
	28-Jan-2011	14.76	14.72	0.04	16.85	0.00	0.05	0.04
	9-Feb-2011	15.05	14.98	0.07	16.58	0.00	0.05	0.07
	23-Feb-2011	15.14	15.05	0.09	16.51	--	0.05	0.0
	9-Mar-2011	14.42	14.40	0.02	17.17	0.00	0.05	0.02
	29-Mar-2011	14.46	14.43	0.03	17.14	0.00	0.05	0.03
	21-Apr-2011	14.16	14.15	0.01	17.42	0.00	0.05	0.01
	6-May-2011	14.19	14.18	0.01	17.39	0.00	0.05	0.01
	9-Jun-2011	14.45	Sheen	0.00	17.12	0.00	0.05	Sheen
MW-16 <i>(31.24)</i>	27-Aug-2003	18.43	18.21	0.22	13.01	0.25	0.25	< 0.01
	3-Sep-2003	18.21	18.20	0.01	13.04	Trace	0.25	0.01
	11-Sep-2003	18.28	18.27	0.01	12.97	Trace	0.25	< 0.01
	17-Sep-2003	18.31	18.30	0.01	12.94	Trace	0.25	< 0.01
	30-Sep-2003	18.23	18.21	0.02	13.03	Trace	0.25	< 0.01
	14-Oct-2003	18.31	NA	0.00	13.18	NA	0.25	0.00
	29-Oct-2003	18.34	18.32	0.02	13.17	Trace	0.25	0.00
	13-Nov-2003	18.37	18.36	0.01	13.13	Trace	0.25	0.00
	26-Nov-2003	18.23	18.20	0.03	13.29	Trace	0.25	< 0.01
	24-Dec-2003	17.41	NA	0.00	14.08	NA	0.25	0.00
	21-Jan-2004	17.04	17.03	0.01	14.46	Trace	0.25	< 0.01
	25-Feb-2004	17.08	17.07	0.01	14.42	NA	0.25	0.01
	24-Mar-2004	18.61	18.60	0.01	12.89	NA	0.25	0.01

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-17								
(28.40)	27-Aug-2003	18.00	17.48	0.52	10.86	0.50	0.50	0.01
	3-Sep-2003	17.85	17.61	0.24	10.76	0.10	0.60	0.01
	11-Sep-2003	18.07	17.98	0.09	10.41	Trace	0.60	< 0.01
	17-Sep-2003	18.20	18.05	0.15	10.33	Trace	0.60	< 0.01
	30-Sep-2003	18.18	18.00	0.18	10.38	Trace	0.60	< 0.01
	14-Oct-2003	18.60	18.52	0.08	9.87	Trace	0.60	0.01
	29-Oct-2003	18.56	18.51	0.05	9.88	Trace	0.60	0.00
	13-Nov-2003	18.74	18.71	0.03	9.69	Trace	0.60	0.01
	26-Nov-2003	18.68	18.66	0.02	9.74	Trace	0.60	0.01
	24-Dec-2003	17.31	17.29	0.02	11.11	Trace	0.60	0.01
	21-Jan-2004	15.68	NA	0.00	12.72	NA	0.60	0.00
	25-Feb-2004	16.30	14.17	2.13	14.00	1.50	2.10	0.01
	10-Mar-2004	15.80	14.85	0.95	13.45	0.15	2.25	0.01
	24-Mar-2004	15.12	15.03	0.09	13.36	NA	2.25	0.09
	14-Jan-2005	19.50	17.75	1.75	10.46	0.1	0.10	0.35
	21-Jan-2005	18.55	17.75	0.80	10.56	1.1	1.20	0.10
	28-Jan-2005	18.01	17.78	0.23	10.59	0.2	1.40	0.05
	4-Feb-2005	18.02	17.86	0.16	10.52	0.2	1.55	0.07
	11-Feb-2005	17.81	17.68	0.13	10.71	0.05	1.60	0.07
	18-Feb-2005	17.86	17.74	0.12	10.65	0.05	1.65	0.05
	25-Feb-2005	17.99	17.91	0.08	10.48	0.0	1.65	0.08
	4-Mar-2005	18.15	18.05	0.10	10.34	0.15	1.80	0.03
	11-Mar-2005	18.03	18.00	0.03	10.40	0.0	1.80	0.03
	25-Mar-2005	18.33	18.26	0.07	10.13	0.0	1.80	0.07
	14-Apr-2005	17.82	17.74	0.08	10.65	0.0	1.80	0.08
	30-Apr-2005	17.54	17.46	0.08	10.93	0.0	1.80	0.08
	31-May-2005	16.74	16.66	0.08	11.73	0.0	1.80	0.08
	24-Jun-2005	16.85	16.78	0.07	11.61	0.0	1.80	0.07
	29-Jul-2005	17.52	17.42	0.10	10.97	0.0	1.80	0.10
	26-Aug-2005	17.97	17.90	0.07	10.49	0.0	1.80	0.07
	24-Sep-2005	18.56	18.50	0.06	9.89	0.0	1.80	0.06
	21-Oct-2005	18.90	18.82	0.08	9.57	0.0	1.80	0.08
	28-Nov-2005	18.40	18.30	0.10	10.09	0.0	1.80	0.10
	3-Jan-2006	16.10	16.01	0.09	12.38	0.0	0.00	0.09
	17-Feb-2006	15.22	13.65	1.57	14.58	1.5	1.50	0.05
	3-Mar-2006	14.79	13.90	0.89	14.40	0.75	2.25	0.05
	19-Sep-2006	18.86	18.18	0.68	10.15	0.80	3.05	0.05
	13-Dec-2006	17.11	15.34	1.77	12.87	1.60	3.85	0.03
	29-Mar-2007	17.56	13.66	3.90	14.31	4.00	4.00	0.05
	3-May-2007	16.10	14.74	1.36	13.51	7.50	11.50	0.05
	15-May-2007	15.50	14.75	0.75	13.57	2.00	13.50	0.02
	25-May-2007	15.35	14.79	0.56	13.55	1.00	14.50	0.05
	4-Jun-2007	15.90	15.53	0.37	12.83	0.75	15.25	0.10
	13-Jun-2007	16.11	15.77	0.34	12.59	0.50	15.75	0.04
	19-Jun-2007	16.02	15.84	0.18	12.54	0.25	16.00	0.05
	27-Jun-2007	16.47	16.31	0.16	12.07	1.00	17.00	0.04
	9-Jul-2007	16.75	16.66	0.09	11.73	0.00	17.00	0.09
	25-Jul-2007	17.01	16.87	0.14	11.51	0.10	17.10	0.10
	9-Aug-2007	17.42	17.24	0.18	11.14	0.15	17.25	0.10
	22-Aug-2007	17.66	17.57	0.09	10.82	0.00	17.25	0.09
	7-Sep-2007	17.97	17.90	0.07	10.49	0.00	17.25	0.07
	14-Sep-2007	17.84	17.70	0.14	10.68	0.50	17.75	0.01
	18-Sep-2007	18.23	18.19	0.04	10.21	0.00	17.75	0.04
	4-Oct-2007	18.50	18.46	0.04	9.94	0.00	17.75	0.04
	11-Oct-2007	18.55	18.51	0.04	9.89	0.00	17.75	0.04
	24-Oct-2007	18.65	18.60	0.05	9.79	0.00	17.75	0.05
	8-Nov-2007	18.77	18.72	0.05	9.67	0.00	17.75	0.05
	21-Nov-2007	18.71	18.65	0.06	9.74	0.00	17.75	0.06
	7-Dec-2007	17.79	17.50	0.29	10.87	0.40	18.15	0.06
	21-Dec-2007	17.40	16.96	0.44	11.39	0.40	18.55	0.00
	3-Jan-2008	16.00	15.19	0.81	13.12	1.00	1.00	0.04
	18-Jan-2008	15.80	14.48	1.32	13.77	1.50	2.50	0.01
	24-Jan-2008	14.96	14.39	0.57	13.95	0.90	3.40	SHEEN
	31-Jan-2008	14.97	14.57	0.40	13.79	0.75	4.15	SHEEN
	6-Feb-2008	14.81	14.27	0.54	14.07	1.00	5.15	SHEEN
	15-Feb-2008	14.62	13.98	0.64	14.35	1.00	6.15	SHEEN
	29-Feb-2008	15.00	14.45	0.55	13.89	0.75	6.90	SHEEN
	10-Mar-2008	15.18	14.81	0.37	13.55	0.00	6.90	0.37
	12-Mar-2008	15.25	14.79	0.46	13.56	0.50	7.40	SHEEN
	21-Mar-2008	15.35	15.03	0.32	13.33	0.40	7.80	SHEEN
	11-Apr-2008	15.63	15.32	0.31	13.05	0.79	8.59	SHEEN
	17-Apr-2008	15.53	15.34	0.19	13.04	0.26	8.85	SHEEN
	24-Apr-2008	15.57	15.48	0.09	12.91	0.13	8.98	SHEEN
	2-May-2008	15.54	15.35	0.19	13.03	0.50	9.48	0.01
	8-May-2008	15.54	15.42	0.12	12.97	0.20	9.68	SHEEN
	14-May-2008	15.61	15.50	0.11	12.89	0.50	10.18	SHEEN
	30-May-2008	14.76	14.54	0.22	13.84	0.40	10.58	SHEEN

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-17 <i>(continued)</i>	13-Jun-2008	14.45	14.20	0.25	14.17	0.40	10.98	SHEEN
	25-Jun-2008	15.01	14.84	0.17	13.54	0.21	11.19	SHEEN
	11-Jul-2008	15.85	15.73	0.12	12.66	0.10	11.29	SHEEN
	28-Jul-2008	16.68	16.62	0.06	11.77	0.00	11.29	0.06
	13-Aug-2008	17.27	17.12	0.15	11.26	0.13	11.42	SHEEN
	27-Aug-2008	17.48	17.42	0.06	10.97	0.00	11.42	0.06
	8-Sep-2008	17.73	17.68	0.05	10.71	0.00	11.42	0.05
	18-Sep-2008	18.00	17.95	0.05	10.44	0.00	11.42	0.05
	30-Sep-2008	17.17	17.12	0.05	11.27	0.00	11.42	0.05
	16-Oct-2008	18.46	18.40	0.06	9.99	0.00	11.42	0.06
	30-Oct-2008	18.60	18.56	0.04	9.84	0.00	11.42	0.04
	14-Nov-2008	18.53	18.46	0.07	9.93	0.00	11.42	0.07
	26-Nov-2008	18.36	18.27	0.09	10.12	0.00	11.42	0.09
	16-Dec-2008	18.44	18.36	0.08	10.03	0.00	11.42	0.08
	29-Dec-2008	18.23	18.04	0.19	10.34	0.13	11.55	SHEEN
	15-Jan-2009	16.49	15.62	0.87	12.68	0.40	0.40	0.01
	23-Jan-2009	16.22	15.82	0.40	12.54	0.40	0.80	0.01
	29-Jan-2009	16.19	15.96	0.23	12.41	0.26	1.06	SHEEN
	4-Feb-2009	16.15	15.94	0.21	12.44	0.40	1.46	0.01
	12-Feb-2009	16.34	16.22	0.12	12.17	0.26	1.72	SHEEN
	19-Feb-2009	16.65	16.57	0.08	11.82	0.00	1.72	0.08
	10-Mar-2009	16.61	16.49	0.12	11.90	0.13	1.85	SHEEN
	27-Mar-2009	16.69	16.58	0.11	11.81	0.13	1.98	SHEEN
	16-Apr-2009	16.64	16.55	0.09	11.84	0.00	1.98	0.09
	14-May-2009	16.27	16.15	0.12	12.24	0.07	2.05	SHEEN
	4-Jun-2009	15.79	15.73	0.06	12.66	0.00	2.05	SHEEN
	13-Jul-2009	17.26	17.14	0.12	11.25	0.13	2.18	0.01
	10-Aug-2009	17.90	17.84	0.06	10.55	0.00	2.18	0.06
	9-Sep-2009	18.52	18.47	0.05	9.92	0.00	2.18	0.05
	15-Oct-2009	18.79	18.73	0.06	9.66	0.00	2.18	0.06
	18-Nov-2009	18.34	18.32	0.02	10.08	0.00	2.18	0.02
	15-Dec-2009	17.43	17.31	0.12	11.08	0.16	2.34	SHEEN
	13-Jan-2010	16.80	15.54	1.26	12.72	1.33	1.33	SHEEN
	21-Jan-2010	--	16.83	--	--	0.80	2.13	--
	26-Jan-2010	15.74	15.07	0.67	13.26	0.70	2.83	SHEEN
	5-Feb-2010	15.60	15.53	0.07	12.86	0.00	2.83	0.07
	2-Mar-2010	16.85	14.92	1.93	13.27	2.10	4.93	SHEEN
	12-Mar-2010	16.06	15.13	0.93	13.17	1.00	5.93	0
	25-Mar-2010	16.10	15.25	0.85	13.06	1.00	6.93	0.21
	2-Apr-2010	16.63	16.12	0.51	12.22	0.25	0.25	0
	9-Apr-2010	15.63	14.94	0.69	13.38	0.50	0.75	0
	16-Apr-2010	14.79	14.79	0.00	13.61	0.00	0.75	0
	23-Apr-2010	16.30	15.22	1.08	13.06	1.00	1.75	0.02
	4-May-2010	15.91	15.31	0.60	13.02	0.40	2.15	SHEEN
	8-Jun-2010	14.43	13.80	0.63	14.53	0.75	2.90	0.02
	9-Jul-2010	16.02	14.75	1.27	13.51	1.00	1.00	0.00
	23-Jul-2010	16.24	15.58	0.66	12.75	0.50	1.50	0.02
	6-Aug-2010	16.45	16.08	0.37	12.28	0.50	2.00	0.01
	19-Aug-2010	16.73	16.48	0.25	11.89	0.25	2.25	0.01
	27-Aug-2010	16.77	16.69	0.08	11.70	0.00	2.25	0.01
	17-Sep-2010	17.27	17.13	0.14	11.25	0.50	2.75	0.01
	8-Oct-2010	17.48	17.43	0.05	10.96	0.00	0.00	0.05
	11-Nov-2010	17.20	16.88	0.32	11.48	0.40	0.40	0.02
	15-Dec-2010	16.81	14.18	2.63	13.93	2.50	2.90	0.01
	21-Dec-2010	15.39	14.20	1.19	14.07	1.25	4.15	0.01
	30-Dec-2010	14.87	13.83	1.04	14.46	1.00	5.15	0.01
	6-Jan-2011	14.46	13.74	0.72	14.58	0.75	0.75	0.03
	13-Jan-2011	14.41	13.83	0.58	14.51	0.75	1.50	0.01
	19-Jan-2011	13.50	13.10	0.40	15.26	0.50	2.00	SHEEN
	28-Jan-2011	13.66	12.96	0.70	15.36	0.75	2.75	0.02
	9-Feb-2011	14.75	13.95	0.80	14.36	1.50	4.25	0.02
	23-Feb-2011	14.80	14.75	0.05	13.64	--	4.25	0.00
	9-Mar-2011	14.05	13.32	0.73	15.00	0.40	4.65	0.01
	29-Mar-2011	14.97	13.06	1.91	15.13	2.50	7.15	0.02
	21-Apr-2011	14.04	12.65	1.39	15.60	1.20	8.35	0.02
	6-May-2011	14.01	13.02	0.99	15.27	0.50	8.85	0.02
	10-Jun-2011	12.66	12.08	0.58	16.26	0.50	9.35	0.01
MW-19 (30.73)	27-Aug-2003	21.43	18.61	2.82	11.81	2.00	2.00	0.12
	3-Sep-2003	19.55	18.91	0.64	11.75	0.50	2.50	0.02
	11-Sep-2003	19.38	19.28	0.10	11.44	0.10	2.60	0.01
	17-Sep-2003	19.55	19.46	0.09	11.26	0.10	2.70	0.01
	30-Sep-2003	19.65	19.57	0.08	11.15	Trace	2.70	0.02
	14-Oct-2003	19.76	19.66	0.10	11.06	Trace	2.70	0.01
	29-Oct-2003	19.77	19.65	0.12	11.07	0.10	2.80	0.02
	13-Nov-2003	19.91	19.86	0.05	10.86	Trace	2.80	0.00
	26-Nov-2003	19.80	19.74	0.06	10.98	Trace	2.80	< 0.01
	24-Dec-2003	19.18	18.07	1.11	12.54	0.20	3.00	0.06
	30-Dec-2003	19.15	18.10	1.05	12.51	0.20	3.20	0.02
	9-Jan-2004	19.41	15.41	4.00	14.88	0.30	3.50	0.02
	15-Jan-2004	19.15	15.59	3.56	14.75	1.90	5.40	0.07
	21-Jan-2004	17.34	15.34	2.00	15.17	1.00	6.40	0.02
	24-Jan-2004	16.55	14.96	1.59	15.60	0.80	7.20	0.01

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-19 <i>(continued)</i>	3-Feb-2004	17.70	14.45	3.25	15.92	1.00	8.20	0.01
	12-Feb-2004	16.75	14.60	2.15	15.89	1.00	9.20	0.01
	18-Feb-2004	16.17	14.85	1.32	15.73	0.90	10.10	< 0.01
	25-Feb-2004	15.12	14.71	0.41	15.97	0.30	10.40	< 0.01
	3-Mar-2004	15.25	14.99	0.26	15.71	0.10	10.50	0.01
	10-Mar-2004	15.60	15.03	0.57	15.64	0.40	10.90	0.02
	19-Mar-2004	15.85	15.08	0.77	15.57	0.50	11.40	0.01
	24-Mar-2004	15.90	15.22	0.68	15.44	0.40	11.80	0.01
	1-Apr-2004	16.55	15.61	0.94	15.02	0.60	12.40	0.01
	14-Jan-2005	NA	NA	NA	NA	NA	NA	NA
	21-Jan-2005	20.10	19.00	1.10	11.61	0.75	0.75	0.10
	28-Jan-2005	19.22	19.10	0.12	11.62	Trace	0.75	0.03
	4-Feb-2005	19.17	19.08	0.09	11.64	0.0	0.75	0.09
	18-Feb-2005	19.06	18.97	0.09	11.75	0.0	0.75	0.09
	25-Feb-2005	19.35	19.24	0.11	11.48	0.05	0.80	0.03
	11-Mar-2005	19.35	19.31	0.04	11.42	0.0	0.80	0.04
	25-Mar-2005	19.69	19.61	0.08	11.11	0.0	0.80	0.08
	30-Apr-2005	19.36	18.91	0.45	11.77	0.25	1.05	0.00
	13-May-2005	18.88	18.56	0.32	12.13	0.25	1.30	0.03
	31-May-2005	19.00	18.00	1.00	12.62	1.0	2.30	0.05
	24-Jun-2005	19.32	18.11	1.21	12.49	1.5	3.80	0.08
	8-Jul-2005	19.40	18.42	0.98	12.20	0.75	4.55	0.01
	15-Jul-2005	18.87	18.64	0.23	12.06	0.10	4.65	0.01
	22-Jul-2005	19.93	19.86	0.07	10.86	0.0	4.65	0.07
	29-Jul-2005	19.00	18.93	0.07	11.79	0.0	4.65	0.07
	12-Aug-2005	19.34	19.18	0.16	11.53	0.10	4.75	0.02
	26-Aug-2005	19.44	19.39	0.05	11.33	0.0	4.75	0.05
	24-Sep-2005	19.84	19.75	0.09	10.97	0.0	4.75	0.09
	21-Oct-2005	20.00	19.99	0.01	10.74	0.0	4.75	0.01
	28-Nov-2005	19.55	19.42	0.13	11.30	0.05	4.80	< 0.01
	14-Dec-2005	19.65	19.22	0.43	11.46	0.10	4.90	0.08
	21-Dec-2005	19.16	18.82	0.34	11.87	0.50	5.40	0.10
	3-Jan-2006	20.15	17.35	2.80	13.07	2.5	2.50	0.10
	11-Jan-2006	17.40	15.00	2.40	15.47	2.5	5.00	0.10
	17-Jan-2006	15.75	14.46	1.29	16.13	1.1	6.10	0.03
	23-Jan-2006	15.38	14.50	0.88	16.13	0.7	6.80	0.10
	31-Jan-2006	14.92	14.33	0.59	16.34	0.2	7.00	0.08
	17-Feb-2006	15.25	14.43	0.82	16.21	1.5	8.50	0.04
	24-Feb-2006	15.11	14.62	0.49	16.06	1.5	10.00	0.03
	3-Mar-2006	15.23	14.57	0.66	16.09	0.5	10.50	0.03
	14-Mar-2006	16.19	14.95	1.24	15.64	0.8	11.25	0.05
	21-Mar-2006	15.66	14.89	0.77	15.76	0.5	11.75	0.10
	31-Mar-2006	15.48	14.89	0.59	15.78	0.3	12.05	0.02
	6-Apr-2006	15.45	15.21	0.24	15.49	0.2	12.25	0.01
	14-Apr-2006	15.04	14.81	0.23	15.89	0.2	12.45	0.10
	24-Apr-2006	15.19	14.75	0.44	15.93	0.3	12.70	0.01
	9-May-2006	15.58	14.98	0.60	15.68	0.7	13.40	0.07
	19-May-2006	15.50	15.02	0.48	15.66	0.9	14.30	0.01
	25-May-2006	15.41	15.06	0.35	15.63	0.7	15.00	0.01
	2-Jun-2006	15.33	15.10	0.23	15.60	0.3	15.30	0.03
Product Skimmer Installed in Well								
	9-Jun-2006	--	--	--	--	0.25	15.55	--
	19-Jun-2006	--	--	--	--	0.15	15.70	--
	28-Jun-2006	--	--	--	--	0.20	15.90	--
	3-Jul-2006	--	--	--	--	0.10	16.00	--
	10-Jul-2006	--	--	--	--	0.10	16.10	--
	18-Jul-2006	--	--	--	--	0.20	16.30	--
	25-Jul-2006	--	--	--	--	0.40	16.70	--
	4-Aug-2006	--	--	--	--	0.10	16.80	--
	11-Aug-2006	--	--	--	--	0.90	17.70	--
	18-Aug-2006	--	--	--	--	0.30	18.00	--
	23-Aug-2006	--	--	--	--	0.10	18.10	--
	8-Sep-2006	--	--	--	--	0.05	18.15	--
	20-Sep-2006	--	--	--	--	0.10	18.25	--
	3-Oct-2006	--	--	--	--	0.05	18.30	--
	6-Nov-2006	--	--	--	--	0.05	18.35	--
	22-Nov-2006	--	--	--	--	0.00	18.30	--
	4-Dec-2006	--	--	--	--	1.90	1.90	--
	13-Dec-2006	--	--	--	--	1.30	3.20	--
	18-Dec-2006	--	--	--	--	1.00	4.20	--
	26-Dec-2006	--	--	--	--	1.10	4.30	--
	9-Jan-2007	--	--	--	--	1.20	5.50	--
	15-Jan-2007	--	--	--	--	1.00	6.50	--
	26-Jan-2007	--	--	--	--	1.10	7.60	--
	31-Jan-2007	--	--	--	--	1.10	8.70	--
	9-Feb-2007	--	--	--	--	1.00	9.70	--
	13-Feb-2007	--	--	--	--	1.00	10.70	--
	28-Feb-2007	--	--	--	--	1.10	11.80	--
	6-Mar-2007	--	--	--	--	1.20	13.00	--
	23-Mar-2007	--	--	--	--	4.00	17.00	--
	29-Mar-2007	--	--	--	--	5.00	22.00	--
	5-Apr-2007	--	--	--	--	0.50	22.50	--

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-19 <i>(continued)</i>	11-Apr-2007	--	--	--	--	0.40	22.90	--
	16-Apr-2007	--	--	--	--	8.20	31.10	--
	25-Apr-2007	--	--	--	--	0.80	31.90	--
	3-May-2007	--	--	--	--	5.00	36.90	--
	10-May-2007	--	--	--	--	0.90	37.80	--
	15-May-2007	--	--	--	--	0.50	38.30	--
	25-May-2007	--	--	--	--	0.25	38.55	--
	4-Jun-2007	--	--	--	--	0.75	39.30	--
	13-Jun-2007	--	--	--	--	0.20	39.50	--
	19-Jun-2007	--	--	--	--	0.10	39.60	--
	27-Jun-2007	--	--	--	--	1.00	40.60	--
	9-Jul-2007	--	--	--	--	1.20	40.50	--
	25-Jul-2007	--	--	--	--	0.10	40.60	--
	9-Aug-2007	--	--	--	--	0.15	40.75	--
	22-Aug-2007	--	--	--	--	0.00	40.75	--
	7-Sep-2007	--	--	--	--	0.10	40.85	--
	14-Sep-2007	--	--	--	--	0.10	40.95	--
	19-Sep-2007	--	--	--	--	0.00	40.95	--
	4-Oct-2007	--	--	--	--	0.10	41.05	--
	11-Oct-2007	--	--	--	--	0.00	41.05	--
	24-Oct-2007	--	--	--	--	0.10	41.15	--
	8-Nov-2007	--	--	--	--	0.10	41.25	--
	21-Nov-2007	--	--	--	--	0.00	41.25	--
	7-Dec-2007	--	--	--	--	0.05	41.30	--
	21-Dec-2007	--	--	--	--	0.05	41.35	--
(30.73)	3-Jan-2008	17.59	16.98	0.61	--	1.50	1.50	0.04
	18-Jan-2008	17.94	16.25	1.69	--	2.75	4.25	SHEEN
	24-Jan-2008	16.29	15.52	0.77	--	2.00	6.25	SHEEN
	31-Jan-2008	16.48	15.37	1.11	--	2.50	8.75	SHEEN
	6-Feb-2008	16.88	15.07	1.81	--	4.00	12.75	SHEEN
	15-Feb-2008	15.54	14.75	0.79	--	2.75	15.50	SHEEN
	29-Feb-2008	17.00	14.71	2.29	--	2.50	18.00	SHEEN
	14-Mar-2008	16.89	14.88	2.01	--	2.50	20.50	--
	21-Mar-2008	15.67	15.19	0.48	--	2.25	22.75	SHEEN
	11-Apr-2008	15.87	15.45	0.42	--	1.00	23.75	SHEEN
	17-Apr-2008	15.63	15.50	0.13	--	0.66	24.41	SHEEN
	24-Apr-2008	15.89	15.88	0.01	--	0.40	24.81	0.01
	2-May-2008	16.12	16.10	0.02	--	0.25	25.06	0.02
	8-May-2008	16.35	16.32	0.03	--	0.13	25.19	0.03
	14-May-2008	17.01	17.00	0.01	--	0.00	25.19	0.01
	30-May-2008	16.13	16.12	0.01	--	0.60	25.79	0.01
	13-Jun-2008	15.64	15.63	0.01	--	0.13	25.92	SHEEN
	25-Jun-2008	16.92	16.91	0.01	--	0.00	25.92	0.01
	11-Jul-2008	16.82	16.81	0.01	--	0.05	25.98	0.01
	28-Jul-2008	17.88	17.82	0.06	--	0.00	25.98	0.06
	13-Aug-2008	18.31	18.28	0.03	--	0.07	26.04	0.03
	27-Aug-2008	19.07	19.00	0.07	--	0.07	26.11	0.07
	8-Sep-2008	19.43	19.19	0.24	--	0.26	26.37	0.01
	18-Sep-2008	19.66	19.65	0.01	--	0.00	26.37	0.01
	30-Sep-2008	20.02	20.01	0.01	--	0.00	26.37	0.01
	16-Oct-2008	20.42	20.40	0.02	--	0.00	26.37	0.02
	30-Oct-2008	20.41	20.41	0.00	--	0.05	26.42	0.00
	14-Nov-2008	20.80	20.80	0.00	--	0.01	26.43	0.00
	26-Nov-2008	20.42	20.42	0.00	--	0.00	26.43	0.00
	16-Dec-2008	20.68	20.67	0.01	--	0.00	26.43	0.01
	29-Dec-2008	19.45	19.45	0.00	--	0.00	26.43	SHEEN
	15-Jan-2009	18.60	16.96	1.64	--	1.19	1.19	SHEEN
	23-Jan-2009	17.12	17.12	0.00	--	0.08	1.27	SHEEN
	29-Jan-2009	17.30	17.29	0.01	--	0.26	1.53	SHEEN
	4-Feb-2009	17.24	17.24	0.00	--	0.66	1.93	0.01
	12-Feb-2009	17.33	17.33	0.00	--	0.53	0.53	SHEEN
	19-Feb-2009	19.34	19.30	0.04	--	0.00	0.53	0.04
	10-Mar-2009	18.97	18.94	0.03	--	0.00	0.53	0.03
	27-Mar-2009	18.74	18.70	0.04	--	0.05	0.58	0.04
	16-Apr-2009	19.00	18.99	0.01	--	0.00	0.58	0.01
	14-May-2009	18.46	18.45	0.01	--	0.00	0.58	0.01
	5-Jun-2009	17.88	17.86	0.02	--	0.03	0.61	SHEEN
	13-Jul-2009	19.34	19.30	0.04	--	0.04	0.65	0.04
	10-Aug-2009	20.15	20.09	0.06	--	0.00	0.65	0.06
	9-Sep-2009	21.60	21.52	0.08	--	0.00	0.65	0.08
	15-Oct-2009	20.73	20.72	0.01	--	0.00	0.65	0.01
	18-Nov-2009	20.53	20.53	0.00	--	0.00	0.65	0.00
	16-Dec-2009	19.03	19.03	0.00	--	0.00	0.65	SHEEN
	13-Jan-2010	21.65	17.75	3.90	--	5.00	5.00	SHEEN
	21-Jan-2010	20.26	16.82	3.44	--	3.10	8.10	SHEEN
	26-Jan-2010	--	--	--	--	1.10	9.20	--
	5-Feb-2010	--	--	--	--	0.90	10.10	SHEEN
	2-Mar-2010	23.70	15.72	7.98	--	10.75	20.85	0.03
	12-Mar-2010	17.36	15.51	1.85	--	3.50	24.35	0.01
	25-Mar-2010	19.13	16.10	3.03	SHEEN	3.00	27.35	--
	2-Apr-2010	17.33	17.33	1.00	--	1.00	1.00	SHEEN
	9-Apr-2010	17.35	15.31	2.04	--	2.50	3.50	0.01
	16-Apr-2010	17.43	15.32	2.11	--	2.50	6.00	0.06
	23-Apr-2010	17.23	15.72	1.51	--	2.00	8.00	0.01
	4-May-2010	19.86	15.94	3.92	--	3.25	11.25	0.03

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-19 <i>(continued)</i>	8-Jun-2010	16.19	14.98	1.21	--	1.50	12.75	0.05
	9-Jul-2010	22.54	15.25	7.29	--	5.50	5.50	0.09
	23-Jul-2010	17.12	15.73	1.39	--	3.25	8.75	0.01
	6-Aug-2010	17.06	16.38	0.68	--	1.25	10.00	0.01
	19-Aug-2010	17.51	17.48	0.03	--	0.50	10.50	0.01
	27-Aug-2010	18.01	17.97	0.04	--	0.00	10.50	0.01
	17-Sep-2010	18.75	18.68	0.07	--	0.25	10.75	0.01
	8-Oct-2010	18.60	18.58	0.02	--	0.20	0.20	0.02
	11-Nov-2010	18.95	18.88	0.07	--	0.00	0.20	0.07
	15-Dec-2010	20.10	15.51	4.59	--	4.75	4.95	0.02
	21-Dec-2010	18.49	15.20	3.29	--	3.00	7.95	0.04
	30-Dec-2010	18.90	16.09	2.81	--	3.00	10.95	0.02
	6-Jan-2011	15.90	14.65	1.25	--	2.25	2.25	0.03
	13-Jan-2011	16.30	16.07	0.23	--	2.50	4.75	0.01
	19-Jan-2011	15.53	14.62	0.91	--	2.25	7.00	0.01
	28-Jan-2011	14.43	14.34	0.09	--	0.15	7.15	0.09
	9-Feb-2011	15.62	14.51	1.11	--	2.50	9.65	0.02
	23-Feb-2011	14.80	14.75	0.05	--	--	9.65	0.00
	9-Mar-2011	14.57	14.16	0.41	--	0.85	10.50	SHEEN
	29-Mar-2011	14.21	13.86	0.35	--	1.25	11.75	0.02
	21-Apr-2011	13.90	13.78	0.12	--	0.60	12.35	0.02
	6-May-2011	14.06	14.00	0.06	--	0.00	12.35	0.06
	9-Jun-2011	13.93	13.86	0.07	--	0.00	12.35	0.07
MW-20 <i>(30.73)</i>	27-Aug-2003	20.58	19.46	1.12	11.15	2.00	2.00	0.04
	3-Sep-2003	19.99	19.59	0.40	11.10	0.50	2.50	0.03
	11-Sep-2003	20.15	19.91	0.24	10.79	0.50	3.00	0.01
	17-Sep-2003	20.27	19.99	0.28	10.71	0.50	3.50	0.01
	30-Sep-2003	20.32	20.17	0.15	10.54	0.10	3.60	< 0.01
	14-Oct-2003	20.38	20.26	0.12	10.46	0.10	3.70	< 0.01
	29-Oct-2003	20.36	20.21	0.15	10.50	0.10	3.80	0.00
	13-Nov-2003	20.45	20.37	0.08	10.35	0.10	3.90	0.01
	26-Nov-2003	20.41	20.35	0.06	10.37	0.10	4.00	0.02
	24-Dec-2003	20.66	18.68	1.98	11.83	0.30	4.30	0.04
	30-Dec-2003	20.69	18.75	1.94	11.77	0.20	4.50	0.01
	9-Jan-2004	20.71	18.88	1.83	11.65	0.10	4.60	0.01
	15-Jan-2004	20.70	17.66	3.04	12.74	1.50	6.10	0.04
	21-Jan-2004	19.22	16.14	3.08	14.25	1.50	7.60	0.03
	29-Jan-2004	19.90	15.55	4.35	14.70	2.00	9.60	0.01
	3-Feb-2004	20.90	15.42	5.48	14.71	2.50	12.10	0.01
	12-Feb-2004	18.05	15.40	2.65	15.04	1.50	13.60	0.02
	18-Feb-2004	19.02	15.62	3.40	14.74	2.20	15.80	< 0.01
	25-Feb-2004	16.56	15.44	1.12	15.17	0.70	16.50	< 0.01
	3-Mar-2004	16.95	15.85	1.10	14.76	0.50	17.00	0.01
	10-Mar-2004	17.66	16.00	1.66	14.55	1.00	18.00	0.02
	18-Mar-2004	17.29	15.92	1.37	14.66	0.75	18.75	0.02
	24-Mar-2004	17.75	16.20	1.55	14.36	1.00	19.75	< 0.01
	1-Apr-2004	17.78	16.92	0.86	13.72	0.50	20.25	< 0.01
	14-Jan-2005	20.70	19.75	0.95	10.88	1.2	1.20	0.01
	21-Jan-2005	20.00	19.60	0.40	11.09	1.2	2.40	0.10
	28-Jan-2005	19.70	19.50	0.20	11.21	0.1	2.50	0.05
	4-Feb-2005	19.73	19.61	0.12	11.11	0.1	2.55	0.06
	11-Feb-2005	19.48	19.38	0.10	11.34	0.1	2.60	0.03
	18-Feb-2005	19.51	19.45	0.06	11.27	0.0	2.60	0.06
	25-Feb-2005	19.77	19.69	0.08	11.03	0.0	2.60	0.08
	11-Mar-2005	19.89	19.82	0.07	10.90	0.2	2.80	< 0.01
	25-Mar-2005	20.18	20.12	0.06	10.60	0.0	2.80	0.06
	30-Apr-2005	19.49	19.45	0.04	11.28	0.0	2.80	0.04
	31-May-2005	18.65	18.60	0.05	12.12	0.0	2.80	0.05
	24-Jun-2005	21.02	18.57	2.45	11.89	3.0	5.80	0.00
	8-Jul-2005	20.10	18.95	1.15	11.65	1.0	6.80	0.05
	15-Jul-2005	19.62	19.14	0.48	11.54	0.3	7.05	0.05
	22-Jul-2005	19.61	19.33	0.28	11.37	2.5	9.55	0.09
	29-Jul-2005	19.67	19.45	0.22	11.26	2.0	11.55	0.02
	5-Aug-2005	19.70	19.61	0.09	11.11	0.0	11.55	0.09
	12-Aug-2005	19.85	19.72	0.13	11.00	0.2	11.70	0.02
	26-Aug-2005	20.07	19.93	0.14	10.78	0.5	12.20	0.02
	9-Sep-2005	20.15	20.10	0.05	10.62	0.0	12.20	0.05
	24-Sep-2005	20.36	20.28	0.08	10.44	0.0	12.20	0.08
	21-Oct-2005	20.58	20.50	0.08	10.22	0.0	12.20	0.08
	28-Nov-2005	20.05	19.95	0.10	10.77	0.0	12.20	0.10
	3-Jan-2006	21.43	17.81	3.62	12.52	3.5	3.50	0.10
	17-Jan-2006	19.77	14.86	4.91	15.33	3.75	7.25	0.03
	23-Jan-2006	16.68	15.07	1.61	15.48	1.50	8.75	0.06
	31-Jan-2006	15.91	14.95	0.96	15.67	0.70	9.45	0.03
	17-Feb-2006	16.50	15.21	1.29	15.38	2.00	11.45	0.03
	24-Feb-2006	16.09	15.52	0.57	15.15	1.50	12.95	0.05
	3-Mar-2006	15.81	15.45	0.36	15.24	0.25	13.20	0.01
	14-Mar-2006	16.19	15.81	0.38	14.88	0.25	13.45	0.05
	21-Mar-2006	16.30	16.09	0.21	14.62	0.25	13.70	0.06
	31-Mar-2006	16.65	16.30	0.35	14.39	0.40	14.10	0.03

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-20 <i>(continued)</i>	6-Apr-2006	15.80	15.57	0.23	15.13	0.1	14.20	0.00
	14-Apr-2006	15.96	15.59	0.37	15.10	0.3	14.50	0.05
	24-Apr-2006	16.02	15.50	0.52	15.17	0.8	15.25	0.00
	9-May-2006	16.60	15.95	0.65	14.71	0.7	15.95	0.05
	19-May-2006	16.51	15.89	0.62	14.77	1.1	16.35	0.01
	25-May-2006	16.41	15.84	0.57	14.83	0.8	0.80	0.01
	2-Jun-2006	16.32	15.78	0.54	14.89	0.5	1.30	0.04
	Product Skimmer Installed in Well							
	9-Jun-2006	--	--	--	--	0.75	2.05	--
	19-Jun-2006	--	--	--	--	0.25	2.30	--
	28-Jun-2006	--	--	--	--	0.30	2.60	--
	3-Jul-2006	--	--	--	--	0.15	2.75	--
	10-Jul-2006	--	--	--	--	0.10	2.85	--
	18-Jul-2006	--	--	--	--	0.20	3.05	--
	25-Jul-2006	--	--	--	--	0.50	3.55	--
	4-Aug-2006	--	--	--	--	0.50	4.05	--
	11-Aug-2006	--	--	--	--	0.20	4.25	--
	18-Aug-2006	--	--	--	--	0.20	4.45	--
	23-Aug-2006	--	--	--	--	0.10	4.55	--
	8-Sep-2006	--	--	--	--	0.0	4.55	--
	20-Sep-2006	--	--	--	--	0.20	4.75	--
	3-Oct-2006	--	--	--	--	0.05	4.80	--
	6-Nov-2006	--	--	--	--	0.10	4.90	--
	22-Nov-2006	--	--	--	--	0.10	5.00	--
	4-Dec-2006	--	--	--	--	1.90	6.90	--
	13-Dec-2006	--	--	--	--	1.30	8.20	--
	18-Dec-2006	--	--	--	--	1.20	9.40	--
	26-Dec-2006	--	--	--	--	1.20	10.60	--
	5-Jan-2007	Skimmer Installed June 2006				1.30	1.30	--
	9-Jan-2007	--	--	--	--	1.20	2.50	--
	15-Jan-2007	--	--	--	--	0.00	2.50	--
	26-Jan-2007	--	--	--	--	1.20	3.70	--
	31-Jan-2007	--	--	--	--	1.10	4.80	--
	9-Feb-2007	--	--	--	--	1.00	5.80	--
	13-Feb-2007	--	--	--	--	1.00	6.80	--
	28-Feb-2007	--	--	--	--	1.10	7.90	--
	6-Mar-2007	--	--	--	--	1.00	8.90	--
	23-Mar-2007	--	--	--	--	1.00	9.90	--
	29-Mar-2007	--	--	--	--	4.00	13.90	--
	5-Apr-2007	--	--	--	--	1.00	14.90	--
	11-Apr-2007	--	--	--	--	1.20	16.10	--
	16-Apr-2007	--	--	--	--	2.70	18.80	--
	25-Apr-2007	--	--	--	--	0.30	19.10	--
	3-May-2007	--	--	--	--	4.10	23.20	--
	10-May-2007	--	--	--	--	0.80	24.00	--
	15-May-2007	--	--	--	--	1.20	25.20	--
	25-May-2007	--	--	--	--	0.50	25.70	--
	4-Jun-2007	--	--	--	--	0.50	26.20	--
	13-Jun-2007	--	--	--	--	0.50	26.70	--
	19-Jun-2007	--	--	--	--	0.00	26.70	--
	27-Jun-2007	--	--	--	--	1.00	27.70	--
	9-Jul-2007	--	--	--	--	0.50	28.20	--
	25-Jul-2007	--	--	--	--	0.10	28.30	--
	9-Aug-2007	--	--	--	--	0.10	28.40	--
	22-Aug-2007	--	--	--	--	0.10	28.50	--
	7-Sep-2007	--	--	--	--	0.10	28.60	--
	14-Sep-2007	--	--	--	--	0.90	29.50	--
	19-Sep-2007	--	--	--	--	0.10	29.60	--
	4-Oct-2007	--	--	--	--	0.10	29.70	--
	11-Oct-2007	--	--	--	--	0.00	29.70	--
	24-Oct-2007	--	--	--	--	0.10	29.80	--
	8-Nov-2007	--	--	--	--	0.10	29.90	--
	21-Nov-2007	--	--	--	--	0.00	29.90	--
	7-Dec-2007	--	--	--	--	0.05	29.95	--
	21-Dec-2007	--	--	--	--	0.05	30.00	--
(30.73)	3-Jan-2008	19.70	17.44	2.26	--	3.00	3.00	0.02
	18-Jan-2008	18.00	16.93	1.07	--	2.50	5.50	SHEEN
	24-Jan-2008	17.57	16.57	1.00	--	1.00	6.50	SHEEN
	31-Jan-2008	17.61	16.76	0.85	--	1.75	8.25	SHEEN
	6-Feb-2008	18.02	16.55	1.47	--	3.00	11.25	SHEEN
	15-Feb-2008	17.46	15.94	1.52	--	4.25	12.50	SHEEN
	29-Feb-2008	18.18	16.28	1.90	--	2.50	15.00	SHEEN
	14-Mar-2008	17.62	16.59	1.03	--	2.50	17.50	SHEEN
	21-Mar-2008	17.40	17.33	0.07	--	1.00	18.50	SHEEN
	11-Apr-2008	17.80	17.57	0.23	--	2.00	20.50	SHEEN
	17-Apr-2008	17.67	17.56	0.11	--	1.06	21.56	SHEEN
	24-Apr-2008	17.84	17.71	0.13	--	0.26	21.82	SHEEN
	2-May-2008	17.58	17.50	0.08	--	0.25	22.07	0.08

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
MW-20 <i>(continued)</i>	8-May-2008	17.63	17.59	0.04	--	1.30	23.37	0.04
	14-May-2008	17.92	17.88	0.04	--	0.03	23.40	0.04
	30-May-2008	16.79	16.71	0.08	--	0.03	23.43	0.08
	13-Jun-2008	16.50	16.43	0.07	--	0.26	23.69	SHEEN
	25-Jun-2008	17.05	16.86	0.19	--	0.00	23.69	SHEEN
	11-Jul-2008	17.85	17.76	0.09	--	0.13	23.82	0.09
	28-Jul-2008	18.22	18.21	0.01	--	0.03	23.85	0.01
	13-Aug-2008	19.30	19.28	0.02	--	0.00	23.85	0.02
	27-Aug-2008	19.56	19.55	0.01	--	0.13	23.98	0.01
	8-Sep-2008	19.71	19.68	0.03	--	0.00	23.98	0.03
	18-Sep-2008	19.86	19.84	0.02	--	0.03	24.01	0.02
	30-Sep-2008	20.05	20.02	0.03	--	0.00	24.01	0.03
	16-Oct-2008	20.41	20.40	0.01	--	0.00	24.01	0.01
	30-Oct-2008	20.40	20.39	0.01	--	0.00	24.01	0.01
	14-Nov-2008	20.55	20.54	0.01	--	0.00	24.01	0.01
	26-Nov-2008	20.28	20.23	0.05	--	0.00	24.01	0.05
	16-Dec-2008	20.47	20.46	0.01	--	0.00	24.01	0.01
	29-Dec-2008	20.46	20.44	0.02	--	0.00	24.01	0.02
	15-Jan-2009	18.62	18.07	0.55	--	0.33	0.33	SHEEN
	23-Jan-2009	18.85	17.93	0.92	--	0.40	0.73	0.01
	29-Jan-2009	18.42	18.28	0.14	--	0.26	0.99	SHEEN
	4-Feb-2009	18.31	18.03	0.28	--	0.79	1.78	0.01
	12-Feb-2009	18.53	18.40	0.13	--	0.60	2.38	SHEEN
	19-Feb-2009	18.88	18.81	0.07	--	0.00	2.38	0.07
	10-Mar-2009	19.15	19.12	0.03	--	0.05	2.43	0.03
	27-Mar-2009	19.06	19.03	0.03	--	0.05	2.48	0.03
	16-Apr-2009	18.70	18.67	0.03	--	0.00	2.48	0.03
	14-May-2009	18.51	18.48	0.03	--	0.00	2.48	0.03
	5-Jun-2009	17.95	17.94	0.01	--	0.05	2.53	SHEEN
	13-Jul-2009	19.28	19.28	0.00	--	0.00	2.53	SHEEN
	10-Aug-2009	20.10	20.10	0.00	--	0.00	2.53	SHEEN
	9-Sep-2009	20.84	20.82	0.02	--	0.00	2.53	0.02
	15-Oct-2009	20.84	20.80	0.04	--	0.00	2.53	0.04
	18-Nov-2009	20.46	20.46	0.00	--	0.00	2.53	SHEEN
	16-Dec-2009	19.90	19.90	0.00	--	0.00	2.53	0.00
	13-Jan-2010	20.22	18.38	1.84	--	2.50	2.50	SHEEN
	21-Jan-2010	18.67	17.62	1.05	--	2.10	4.60	SHEEN
	26-Jan-2010	18.45	17.80	0.65	--	1.00	5.60	SHEEN
	5-Feb-2010	--	--	--	--	1.00	6.60	SHEEN
	2-Mar-2010	20.57	17.51	3.06	--	2.65	9.25	0.02
	12-Mar-2010	18.70	17.35	1.35	--	2.25	11.50	0.01
	25-Mar-2010	18.56	17.49	1.07	--	2.00	13.50	0.01
	2-Apr-2010	18.15	17.23	0.92	--	2.50	2.50	SHEEN
	9-Apr-2010	18.39	17.43	0.96	--	1.25	3.75	0.01
	16-Apr-2010	18.44	17.39	1.05	--	1.25	5.00	0.03
	23-Apr-2010	18.44	17.60	0.84	--	2.00	7.00	0.01
	4-May-2010	19.58	17.59	1.99	--	2.25	9.25	0.02
	8-Jun-2010	17.65	16.05	1.60	--	1.50	10.75	0.05
	9-Jul-2010	19.73	16.80	2.93	--	3.75	3.75	0.01
	23-Jul-2010	19.05	17.90	1.15	--	1.25	5.00	0.01
	6-Aug-2010	18.66	18.47	0.19	--	1.30	6.30	0.01
	19-Aug-2010	18.96	18.90	0.06	--	0.00	6.30	0.01
	27-Aug-2010	18.91	18.88	0.03	--	0.50	6.80	0.01
	17-Sep-2010	19.44	19.43	0.01	--	0.00	6.80	0.01
	8-Oct-2010	19.66	19.63	0.03	--	0.00	0.00	0.03
	11-Nov-2010	19.96	19.92	0.04	--	0.00	0.00	0.04
	15-Dec-2010	19.93	16.93	3.00	--	5.00	5.00	0.02
	21-Dec-2010	18.68	16.39	2.29	--	2.25	7.25	0.03
	30-Dec-2010	17.84	15.03	2.81	--	3.00	10.25	0.02
	6-Jan-2011	15.81	15.62	0.19	--	2.00	2.00	0.01
	13-Jan-2011	16.30	16.07	0.23	--	1.00	3.00	0.01
	19-Jan-2011	15.76	15.63	0.13	--	0.75	3.75	0.03
	28-Jan-2011	15.55	15.43	0.12	--	0.75	4.50	0.02
	9-Feb-2011	16.92	16.13	0.79	--	2.00	6.50	0.01
	23-Feb-2011	16.30	16.29	0.01	--	--	6.50	0.00
	9-Mar-2011	15.82	15.53	0.29	--	0.75	7.25	0.02
	29-Mar-2011	16.25	15.27	0.98	--	1.25	8.50	0.02
	21-Apr-2011	16.11	14.84	1.27	--	1.00	9.50	0.01
	6-May-2011	16.13	15.18	0.95	--	1.00	10.50	0.02
	10-Jun-2011	15.76	15.38	0.38	--	0.95	11.45	0.02
HC-6S (32.62)	27-Aug-2003	18.93	NA	0.00	13.69	NA	NA	0.00
	3-Sep-2003	19.00	NA	0.00	13.62	NA	NA	0.00
	11-Sep-2003	19.11	NA	0.00	13.51	NA	NA	0.00
	17-Sep-2003	19.20	NA	0.00	13.42	NA	NA	0.00
	30-Sep-2003	19.15	NA	0.00	13.47	NA	NA	0.00
	14-Oct-2003	19.19	NA	0.00	13.43	NA	NA	0.00
	29-Oct-2003	19.29	NA	0.00	13.33	NA	NA	0.00
	13-Nov-2003	19.33	NA	0.00	13.29	NA	NA	0.00
	26-Nov-2003	19.13	NA	0.00	13.49	NA	NA	0.00
	24-Dec-2003	18.60	NA	0.00	14.02	NA	NA	0.00
	21-Jan-2004	17.31	NA	0.00	15.31	NA	NA	0.00
	25-Feb-2004	17.81	NA	0.00	14.81	NA	NA	0.00
	24-Mar-2004	16.31	NA	0.00	16.31	NA	NA	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
HC-6D								
(32.48)	27-Aug-2003	21.90	NA	0.00	10.58	NA	NA	0.00
	3-Sep-2003	21.99	NA	0.00	10.49	NA	NA	0.00
	11-Sep-2003	22.04	NA	0.00	10.44	NA	NA	0.00
	17-Sep-2003	22.10	NA	0.00	10.38	NA	NA	0.00
	30-Sep-2003	22.06	NA	0.00	10.42	NA	NA	0.00
	14-Oct-2003	22.16	NA	0.00	10.32	NA	NA	0.00
	29-Oct-2003	22.04	NA	0.00	10.44	NA	NA	0.00
	13-Nov-2003	22.10	NA	0.00	10.38	NA	NA	0.00
	26-Nov-2003	21.96	NA	0.00	10.52	NA	NA	0.00
	24-Dec-2003	21.35	NA	0.00	11.13	NA	NA	0.00
	21-Jan-2004	19.88	NA	0.00	12.60	NA	NA	0.00
	25-Feb-2004	20.71	NA	0.00	11.77	NA	NA	0.00
	24-Mar-2004	17.88	NA	0.00	14.60	NA	NA	0.00
HC-10								
(29.30)	27-Aug-2003	21.98	17.71	4.27	11.12	2.00	2.00	0.21
	3-Sep-2003	20.06	18.03	2.03	11.05	0.50	2.50	0.04
	11-Sep-2003	19.61	18.46	1.15	10.71	0.10	2.60	0.03
	17-Sep-2003	19.77	18.65	1.12	10.53	0.20	2.80	0.03
	30-Sep-2003	19.69	18.99	0.70	10.23	0.20	3.00	0.01
	14-Oct-2003	19.68	18.85	0.83	10.36	0.30	3.30	0.02
	29-Oct-2003	19.62	18.83	0.79	10.38	0.10	3.10	0.07
	13-Nov-2003	19.60	19.05	0.55	10.19	Trace	3.40	0.01
	19-Nov-2003	19.60	19.15	0.45	10.10	0.10	3.50	0.03
	26-Nov-2003	19.51	19.00	0.51	10.24	0.10	3.60	0.01
	3-Dec-2003	19.27	18.89	0.38	10.37	0.10	3.70	0.01
	10-Dec-2003	19.88	19.60	0.28	9.67	0.10	3.80	0.01
	17-Dec-2003	18.66	18.36	0.30	10.91	0.10	3.90	0.01
	24-Dec-2003	17.98	17.76	0.22	11.52	Trace	3.90	< 0.01
	9-Jan-2004	17.11	16.84	0.27	12.43	0.10	4.00	0.01
	15-Jan-2004	17.00	16.71	0.29	12.56	0.10	4.10	0.01
	21-Jan-2004	16.01	15.85	0.16	13.43	0.10	4.20	0.01
	29-Jan-2004	16.00	15.30	0.70	13.92	0.30	4.50	0.01
	3-Feb-2004	16.10	15.40	0.70	13.82	0.30	4.80	0.01
	12-Feb-2004	15.87	15.28	0.59	13.96	0.10	4.90	0.01
	18-Feb-2004	16.22	15.41	0.81	13.80	0.10	5.00	< 0.01
	25-Feb-2004	15.47	14.86	0.61	14.37	0.10	5.10	< 0.01
	3-Mar-2004	15.95	15.55	0.40	13.71	0.10	5.20	0.01
	10-Mar-2004	16.10	15.65	0.45	13.60	0.05	5.25	0.01
	18-Mar-2004	16.03	15.59	0.44	13.66	0.05	5.30	< 0.01
	24-Mar-2004	16.33	15.99	0.34	13.27	0.05	5.35	< 0.01
	1-Apr-2004	16.50	15.95	0.55	13.29	0.08	5.43	< 0.01
	14-Jan-2005	18.90	18.49	0.41	10.76	0.1	0.10	0.09
	21-Jan-2005	18.60	18.25	0.35	11.01	1.0	1.0	0.10
	28-Jan-2005	18.48	18.22	0.26	11.05	0.2	1.2	0.09
	4-Feb-2005	18.49	18.27	0.22	11.01	0.2	1.4	0.03
	11-Feb-2005	18.30	18.12	0.18	11.16	0.1	1.4	0.06
	18-Feb-2005	18.26	18.11	0.15	11.17	0.1	1.5	0.06
	25-Feb-2005	18.50	18.37	0.13	10.92	0.05	1.6	0.06
	4-Mar-2005	18.64	18.52	0.12	10.77	0.05	1.6	0.02
	11-Mar-2005	18.58	18.48	0.10	10.81	0.15	1.8	0.01
	18-Mar-2005	18.56	18.47	0.09	10.82	0.0	1.8	0.09
	25-Mar-2005	18.86	18.75	0.11	10.54	0.05	1.8	0.01
	1-Apr-2005	18.52	18.46	0.06	10.83	0.0	1.8	0.06
	14-Apr-2005	18.44	18.43	0.01	10.87	0.1	2.0	0.01
	30-Apr-2005	18.22	18.14	0.08	11.15	0.0	2.0	0.08
	13-May-2005	18.88	18.82	0.06	10.47	0.0	2.0	0.06
	31-May-2005	17.38	17.32	0.06	11.97	0.0	2.0	0.06
	24-Jun-2005	17.55	17.50	0.05	11.79	0.0	2.0	0.05
	29-Jul-2005	18.16	18.09	0.07	11.20	0.00	2.00	0.07
	26-Aug-2005	18.60	18.52	0.08	10.77	0.00	2.00	0.08
	24-Sep-2005	19.05	18.90	0.15	10.38	0.05	2.05	0.00
	10-Oct-2005	19.25	19.05	0.20	10.23	0.50	2.55	0.04
	21-Oct-2005	19.25	19.19	0.06	10.10	0.00	2.55	0.06
	28-Nov-2005	18.70	18.65	0.05	10.64	0.00	2.55	0.05
	3-Jan-2006	17.35	17.30	0.05	11.99	0.00	0.00	0.05
	17-Feb-2006	15.33	14.79	0.54	14.45	1.00	1.00	0.08
	3-Mar-2006	15.43	14.89	0.54	14.35	0.25	1.25	0.06
	13-Mar-2006	15.54	15.15	0.39	14.11	--	--	--
	27-Jun-2006	15.58	15.41	0.17	13.87	0.10	1.35	0.01
	19-Sep-2006	19.18	18.34	0.84	10.87	0.35	1.70	0.02
	13-Dec-2006	17.16	16.63	0.53	12.61	0.25	1.95	0.02
	29-Mar-2007	15.91	15.33	0.58	13.91	0.25	0.25	0.08
	27-Jun-2007	17.50	17.03	0.47	12.22	2.00	2.25	0.07
	19-Sep-2007	19.09	18.70	0.39	10.56	0.25	2.50	0.01
	6-Dec-2007	18.76	18.49	0.27	10.78	0.40	2.90	0.00
	10-Mar-2008	16.16	15.82	0.34	13.44	0.00	0.00	0.08
	12-Mar-2008	16.28	15.82	0.46	13.43	0.50	0.50	SHEEN
	13-Jun-2008	15.23	15.10	0.13	14.19	0.26	0.76	SHEEN
	9-Sep-2008	18.46	18.40	0.06	10.89	0.79	1.55	SHEEN
	29-Dec-2008	19.03	18.81	0.22	10.47	0.33	1.88	0.01
	10-Mar-2009	17.34	17.32	0.02	11.98	0.00	0.00	0.02
	4-Jun-2009	16.75	16.54	0.21	12.74	0.08	0.08	0.01
	9-Sep-2009	19.01	18.83	0.18	10.45	0.07	0.15	SHEEN

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
HC-10 <i>(continued)</i>	15-Dec-2009	18.32	18.23	0.09	11.06	0.00	0.15	0.09
	12-Mar-2010	16.62	16.21	0.41	13.04	0.25	0.25	0.00
	25-Mar-2010	16.35	16.30	0.05	12.99	0.00	0.25	0.05
	16-Apr-2010	16.50	16.09	0.41	13.16	0.25	0.50	0.01
	23-Apr-2010	16.77	16.48	0.29	12.79	0.13	0.63	0.00
	4-May-2010	16.71	16.63	0.08	12.66	0.00	0.63	0.08
	8-Jun-2010	15.53	15.27	0.26	14.00	0.25	0.88	SHEEN
	9-Jul-2010	--	--	--	--	--	--	--
	23-Jul-2010	--	--	--	--	--	--	--
	6-Aug-2010	17.34	16.95	0.39	12.31	0.25	0.25	0.02
	19-Aug-2010	17.59	17.30	0.29	11.97	0.25	0.50	SHEEN
	27-Aug-2010	17.71	17.49	0.22	11.79	0.25	0.75	0.01
	17-Sep-2010	18.01	17.82	0.19	11.46	0.25	1.00	0.02
	8-Oct-2010	18.36	18.18	0.18	11.10	0.10	0.10	0.01
	11-Nov-2010	18.15	18.02	0.13	11.27	0.10	0.20	SHEEN
	15-Dec-2010	16.32	16.15	0.17	13.13	0.10	0.30	0.01
	21-Dec-2010	15.88	15.72	0.16	13.56	0.20	0.50	0.01
	30-Dec-2010	--	--	--	--	--	--	--
	6-Jan-2011	15.22	15.08	0.14	14.20	0.25	0.25	0.02
	13-Jan-2011	15.34	15.31	0.03	13.99	0.00	0.25	0.03
	19-Jan-2011	15.09	14.76	0.33	14.50	0.25	0.50	SHEEN
	28-Jan-2011	14.41	14.12	0.29	15.15	0.25	0.75	SHEEN
	9-Feb-2011	15.35	15.19	0.16	14.09	0.25	1.00	SHEEN
	23-Feb-2011	15.31	15.11	0.20	14.17	0.10	1.10	0.03
	9-Mar-2011	15.49	15.31	0.18	13.97	0.25	1.35	0.02
	29-Mar-2011	14.98	14.64	0.34	14.62	0.25	1.60	SHEEN
	21-Apr-2011	14.42	14.08	0.34	15.18	0.30	1.90	SHEEN
	6-May-2011	14.57	14.23	0.34	15.03	0.15	2.05	SHEEN
	10-Jun-2011	13.43	13.12	0.31	16.15	0.20	2.25	SHEEN
HC-12S <i>(29.19)</i>	27-Aug-2003	14.14	NA	0.00	15.05	NA	NA	0.00
	3-Sep-2003	14.20	NA	0.00	14.99	NA	NA	0.00
	11-Sep-2003	14.34	NA	0.00	14.85	NA	NA	0.00
	17-Sep-2003	14.44	NA	0.00	14.75	NA	NA	0.00
	30-Sep-2003	14.39	NA	0.00	14.80	NA	NA	0.00
	14-Oct-2003	14.44	NA	0.00	14.75	NA	NA	0.00
	29-Oct-2003	14.60	NA	0.00	14.59	NA	NA	0.00
	13-Nov-2003	14.63	NA	0.00	14.56	NA	NA	0.00
	26-Nov-2003	14.50	NA	0.00	14.69	NA	NA	0.00
	24-Dec-2003	14.01	NA	0.00	15.18	NA	NA	0.00
	21-Jan-2004	12.75	NA	0.00	16.44	NA	NA	0.00
	25-Feb-2004	13.56	NA	0.00	15.63	NA	NA	0.00
	24-Mar-2004	12.97	NA	0.00	16.22	NA	NA	0.00
	27-Aug-2003	18.26	NA	0.00	10.65	NA	NA	0.00
	3-Sep-2003	18.34	NA	0.00	10.57	NA	NA	0.00
HC-12D <i>(28.91)</i>	11-Sep-2003	18.65	NA	0.00	10.26	NA	NA	0.00
	17-Sep-2003	18.71	NA	0.00	10.20	NA	NA	0.00
	30-Sep-2003	18.60	NA	0.00	10.31	NA	NA	0.00
	14-Oct-2003	18.69	NA	0.00	10.22	NA	NA	0.00
	29-Oct-2003	19.01	NA	0.00	9.90	NA	NA	0.00
	13-Nov-2003	19.16	NA	0.00	9.75	NA	NA	0.00
	26-Nov-2003	18.98	NA	0.00	9.93	NA	NA	0.00
	24-Dec-2003	17.89	NA	0.00	11.02	NA	NA	0.00
	21-Jan-2004	17.63	NA	0.00	11.28	NA	NA	0.00
	25-Feb-2004	15.03	NA	0.00	13.88	NA	NA	0.00
	24-Mar-2004	17.17	NA	0.00	11.74	NA	NA	0.00
	27-Aug-2003	15.59	NA	0.00	17.57	NA	NA	0.00
	3-Sep-2003	15.68	NA	0.00	17.48	NA	NA	0.00
HC-15 <i>(33.16)</i>	11-Sep-2003	15.85	NA	0.00	17.31	NA	NA	0.00
	17-Sep-2003	15.98	NA	0.00	17.18	NA	NA	0.00
	30-Sep-2003	16.03	NA	0.00	17.13	NA	NA	0.00
	14-Oct-2003	16.07	NA	0.00	17.09	NA	NA	0.00
	29-Oct-2003	16.11	NA	0.00	17.05	NA	NA	0.00
	13-Nov-2003	16.19	NA	0.00	16.97	NA	NA	0.00
	26-Nov-2003	16.03	NA	0.00	17.13	NA	NA	0.00
	24-Dec-2003	15.36	NA	0.00	17.80	NA	NA	0.00
	21-Jan-2004	14.76	NA	0.00	18.40	NA	NA	0.00
	25-Feb-2004	14.35	NA	0.00	18.81	NA	NA	0.00
	24-Mar-2004	14.66	NA	0.00	18.50	NA	NA	0.00
	14-Jan-2005	NA	NA	NA	NA	NA	NA	NA
	21-Jan-2005	15.45	NP	0.00	17.71	NP	NP	0.00
	28-Jan-2005	15.44	15.43	0.01	17.73	0.00	0.00	0.01
	25-Feb-2005	15.45	15.45	0.00	17.71	0.00	0.00	0.00
	25-Mar-2005	15.61	15.61	0.00	17.55	0.00	0.00	0.00
	30-Apr-2005	15.25	NP	0.00	17.91	0.00	0.00	0.00
	13-May-2005	15.32	NP	0.00	17.84	0.00	0.00	0.00
	31-May-2005				Abandoned			

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
HC-16								
(32.83)	27-Aug-2003	15.75	NA	0.00	17.08	NA	NA	0.00
	3-Sep-2003	15.83	NA	0.00	17.00	NA	NA	0.00
	11-Sep-2003	16.00	NA	0.00	16.83	NA	NA	0.00
	17-Sep-2003	16.16	NA	0.00	16.67	NA	NA	0.00
	30-Sep-2003	16.15	NA	0.00	16.68	NA	NA	0.00
	14-Oct-2003	16.18	NA	0.00	16.65	NA	NA	0.00
	29-Oct-2003	16.28	NA	0.00	16.55	NA	NA	0.00
	13-Nov-2003	16.28	NA	0.00	16.55	NA	NA	0.00
	26-Nov-2003	16.15	NA	0.00	16.68	NA	NA	0.00
	24-Dec-2003	15.49	NA	0.00	17.34	NA	NA	0.00
	21-Jan-2004	15.88	NA	0.00	16.95	NA	NA	0.00
	25-Feb-2004	14.45	NA	0.00	18.38	NA	NA	0.00
	24-Mar-2004	14.76	NA	0.00	18.07	NA	NA	0.00
	14-Jan-2005	15.71	NP	0.00	17.12	NP	NP	0.00
	28-Jan-2005	15.67	15.65	0.02	17.18	0.00	0.00	0.02
	25-Feb-2005	15.66	15.65	0.01	17.18	0.00	0.00	0.01
	25-Mar-2005	15.81	15.80	0.01	17.03	0.00	0.00	0.01
	30-Apr-2005	15.58	NP	0.00	17.25	0.00	0.00	0.00
	31-May-2005	15.35	NP	0.00	17.48	0.00	0.00	0.00
	24-Jun-2005	15.36	NP	0.00	17.47	0.00	0.00	0.00
	29-Jul-2005	15.52	NP	0.00	17.31	0.00	0.00	0.00
	26-Aug-2005	15.70	NP	0.00	17.13	0.00	0.00	0.00
	24-Sep-2005	15.85	NP	0.00	16.98	0.00	0.00	0.00
	21-Oct-2005	15.95	NP	0.00	16.88	0.00	0.00	0.00
	28-Nov-2005	15.63	NP	0.00	17.20	0.00	0.00	0.00
	3-Jan-2006	15.14	NP	0.00	17.69	--	--	--
	17-Feb-2006	14.20	NP	0.00	18.63	--	--	--
	13-Mar-2006	14.40	NP	0.00	18.43	--	--	--
	27-Jun-2006	14.98	NP	0.00	17.85	--	--	--
	19-Sep-2006	15.62	NP	0.00	17.21	--	--	--
	13-Dec-2006	15.04	NP	0.00	17.79	--	--	--
	29-Mar-2007	14.66	NP	0.00	18.17	0.00	0.00	0.00
	27-Jun-2007	15.31	NP	0.00	17.52	0.00	0.00	0.00
	18-Sep-2007	15.95	NP	0.00	16.88	0.00	0.00	0.00
	6-Dec-2007	15.81	NP	0.00	17.02	0.00	0.00	0.00
(32.83)	10-Mar-2008	14.84	NP	0.00	17.99	0.00	0.00	0.00
	12-Jun-2008	15.10	NP	0.00	17.73	0.00	0.00	0.00
	8-Sep-2008	15.87	NP	0.00	16.96	0.00	0.00	0.00
	29-Dec-2008	15.85	NP	0.00	16.98	0.00	0.00	0.00
	10-Mar-2009	15.44	NP	0.00	17.39	0.00	0.00	0.00
HC-17R (33.61)	4-Jun-2009	15.47	NP	0.00	17.36	0.00	0.00	0.00
	13-Nov-2003	16.94	NA	0.00	16.67	NA	NA	0.00
	26-Nov-2003	16.41	NA	0.00	17.20	NA	NA	0.00
	24-Dec-2003	16.41	NA	0.00	17.20	NA	NA	0.00
	9-Jan-2004	16.05	16.02	0.03	13.28	NA	NA	0.03
	21-Jan-2004	15.82	15.79	0.03	13.51	NA	NA	0.03
	3-Feb-2004	15.90	15.88	0.02	13.42	NA	NA	0.02
	18-Feb-2004	15.71	15.55	0.16	13.73	0.03	0.03	< 0.01
	25-Feb-2004	15.58	15.48	0.10	13.81	0.02	0.05	< 0.01
	10-Mar-2004	15.69	15.60	0.09	13.69	NA	0.05	0.09
	24-Mar-2004	16.87	16.78	0.09	12.51	NA	0.05	0.09
	14-Jan-2005	17.60	NP	0.00	16.01	NP	NP	0.00
	28-Jan-2005	17.47	17.47	Sheen	16.14	0.00	0.00	0.00
	25-Feb-2005	17.52	17.52	0.00	16.09	0.00	0.00	0.00
	25-Mar-2005	17.65	17.63	0.02	15.98	0.00	0.00	0.02
	30-Apr-2005	17.35	NP	0.00	16.26	0.00	0.00	0.00
	31-May-2005	17.15	NP	0.00	16.46	0.00	0.00	0.00
	24-Jun-2005	17.14	NP	0.00	16.47	0.00	0.00	0.00
	29-Jul-2005	17.33	NP	0.00	16.28	0.00	0.00	0.00
	26-Aug-2005	17.46	NP	0.00	16.15	0.00	0.00	0.00
	24-Sep-2005	17.55	NP	0.00	16.06	0.00	0.00	0.00
	21-Oct-2005	17.62	NP	0.00	15.99	0.00	0.00	0.00
	28-Nov-2005	17.30	NP	0.00	16.31	0.00	0.00	0.00
	3-Jan-2006	16.73	NP	0.00	16.88	--	--	--
	17-Feb-2006	16.20	NP	0.00	17.41	--	--	--
	13-Mar-2006	16.36	NP	0.00	17.25	--	--	--
	27-Jun-2006	16.82	NP	0.00	16.79	--	--	--
	19-Sep-2006	17.47	NP	0.00	16.14	--	--	--
	13-Dec-2006	16.93	NP	0.00	16.68	--	--	--
	29-Mar-2007	16.70	NP	0.00	16.91	0.00	0.00	0.00
	27-Jun-2007	17.29	NP	0.00	16.32	0.00	0.00	0.00
	18-Sep-2007	17.89	NP	0.00	15.72	0.00	0.00	0.00
	6-Dec-2007	17.24	NP	0.00	16.37	0.00	0.00	0.00
(33.61)	10-Mar-2008	16.85	NP	0.00	16.76	0.00	0.00	0.00
	12-Jun-2008	16.88	NP	0.00	16.73	0.00	0.00	0.00
	8-Sep-2008	17.85	NP	0.00	15.76	0.00	0.00	0.00
	29-Dec-2008	17.89	NP	0.00	15.72	0.00	0.00	0.00
	10-Mar-2009	17.61	NP	0.00	16.00	0.00	0.00	0.00
	4-Jun-2009	17.54	NP	0.00	16.07	0.00	0.00	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
HC-18								
(33.29)	13-Nov-2003	16.37	NA	0.00	16.92	NA	NA	0.00
	26-Nov-2003	15.83	NA	0.00	17.46	NA	NA	0.00
	24-Dec-2003	15.38	NA	0.00	17.91	NA	NA	0.00
	21-Jan-2004	14.73	NA	0.00	18.56	NA	NA	0.00
	25-Feb-2004	14.37	NA	0.00	18.92	NA	NA	0.00
	24-Mar-2004	14.68	NA	0.00	18.61	NA	NA	0.00
	14-Jan-2005	15.71	NP	0.00	17.58	NP	NP	0.00
	28-Jan-2005	15.60	NP	0.00	17.69	NP	NP	0.00
	25-Feb-2005	15.65	15.65	0.00	17.64	0.00	0.00	0.00
	25-Mar-2005	15.81		0.00	17.48	0.00	0.00	0.00
	30-Apr-2005	16.50	NP	0.00	16.79	0.00	0.00	0.00
	31-May-2005	15.34	NP	0.00	17.95	0.00	0.00	0.00
	24-Jun-2005	15.35	NP	0.00	17.94	0.00	0.00	0.00
	29-Jul-2005	15.52	NP	0.00	17.77	0.00	0.00	0.00
	26-Aug-2005	15.67	NP	0.00	17.62	0.00	0.00	0.00
	24-Sep-2005	15.83	NP	0.00	17.46	0.00	0.00	0.00
	21-Oct-2005	15.95	NP	0.00	17.34	0.00	0.00	0.00
	28-Nov-2005	15.63	NP	0.00	17.66	0.00	0.00	0.00
	3-Jan-2006	15.06	NP	0.00	18.23	--	--	--
	17-Feb-2006	14.13	NP	0.00	19.16	--	--	--
	13-Mar-2006	14.35	NP	0.00	18.94	--	--	--
	27-Jun-2006	15.97	NP	0.00	17.32	--	--	--
	19-Sep-2006	15.65	NP	0.00	17.64	--	--	--
	13-Dec-2006	15.09	NP	0.00	18.20	--	--	--
	29-Mar-2007	14.65	NP	0.00	18.64	0.00	0.00	0.00
	27-Jun-2007	15.35	NP	0.00	17.94	0.00	0.00	0.00
	18-Sep-2007	15.99	NP	0.00	17.30	0.00	0.00	0.00
	6-Dec-2007	15.89	NP	0.00	17.40	0.00	0.00	0.00
(33.29)	10-Mar-2008	14.79	NP	0.00	18.50	0.00	0.00	0.00
	12-Jun-2008	15.12	NP	0.00	18.17	0.00	0.00	0.00
	8-Sep-2008	15.96	NP	0.00	17.33	0.00	0.00	0.00
	29-Dec-2008	16.43	NP	0.00	16.86	0.00	0.00	0.00
	10-Mar-2009	15.45	NP	0.00	17.84	0.00	0.00	0.00
	4-Jun-2009	15.51	NP	0.00	17.78	0.00	0.00	0.00
HC-19								
(33.05)	13-Nov-2003	17.92	NA	0.00	15.13	NA	NA	0.00
	26-Nov-2003	17.79	NA	0.00	15.26	NA	NA	0.00
	24-Dec-2003	16.85	NA	0.00	16.20	NA	NA	0.00
	21-Jan-2004	16.29	NA	0.00	16.76	NA	NA	0.00
	25-Feb-2004	18.11	NA	0.00	14.94	NA	NA	0.00
	24-Mar-2004	16.41	NA	0.00	16.64	NA	NA	0.00
	14-Jan-2005	17.40	NP	0.00	15.65	NP	NP	0.00
	28-Jan-2005	17.29	17.29	Sheen	15.76	0.00	0.00	0.00
	25-Feb-2005	17.29	17.29		15.76	0.00	0.00	0.00
	25-Mar-2005	17.45	17.45		15.60	0.00	0.00	0.00
	30-Apr-2005	17.14	NP	0.00	15.91	0.00	0.00	0.00
	31-May-2005	15.90	NP	0.00	17.15	0.00	0.00	0.00
	24-Jun-2005	16.95	NP	0.00	16.10	0.00	0.00	0.00
	29-Jul-2005	17.11	NP	0.00	15.94	0.00	0.00	0.00
	26-Aug-2005	17.28	NP	0.00	15.77	0.00	0.00	0.00
	24-Sep-2005	17.40	NP	0.00	15.65	0.00	0.00	0.00
	21-Oct-2005	17.43	NP	0.00	15.62	0.00	0.00	0.00
	28-Nov-2005	17.09	NP	0.00	15.96	0.00	0.00	0.00
	3-Jan-2006	16.30	NP	0.00	16.75	--	--	--
	17-Feb-2006	15.96	NP	0.00	17.09	--	--	--
	13-Mar-2006	16.13	NP	0.00	16.92	--	--	--
	27-Jun-2006	16.60	NP	0.00	16.45	--	--	--
	19-Sep-2006	17.26	NP	0.00	15.79	--	--	--
	13-Dec-2006	16.67	NP	0.00	16.38	--	--	--
	29-Mar-2007	16.36	NP	0.00	16.69	0.00	0.00	0.00
	27-Jun-2007	17.04	NP	0.00	16.01	0.00	0.00	0.00
	18-Sep-2007	17.63	NP	0.00	15.42	0.00	0.00	0.00
	6-Dec-2007	16.59	NP	0.00	16.46	0.00	0.00	0.00
(33.05)	10-Mar-2008	16.48	NP	0.00	16.57	0.00	0.00	0.00
	12-Jun-2008	16.01	NP	0.00	17.04	0.00	0.00	0.00
	8-Sep-2008	17.64	NP	0.00	15.41	0.00	0.00	0.00
	29-Dec-2008	17.55	NP	0.00	15.50	0.00	0.00	0.00
	10-Mar-2009	17.34	NP	0.00	15.71	0.00	0.00	0.00
	4-Jun-2009	17.27	NP	0.00	15.78	0.00	0.00	0.00
	9-Sep-2009	18.03	NP	0.00	15.02	0.00	0.00	0.00
	15-Dec-2009	17.52	NP	0.00	15.53	0.00	0.00	0.00
	11-Mar-2010	16.75	NP	0.00	16.30	0.00	0.00	0.00
	8-Jun-2010	16.50	NP	0.00	16.55	0.00	0.00	0.00
	16-Sep-2010	17.26	NP	0.00	15.79	0.00	0.00	0.00
	13-Dec-2010	16.26	NP	0.00	16.79	0.00	0.00	0.00
	9-Jun-2011	15.12	NP	0.00	17.93	0.00	0.00	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
HC-20								
(32.26)	13-Nov-2003	16.18	NA	0.00	16.08	NA	NA	0.00
	26-Nov-2003	15.99	NA	0.00	16.27	NA	NA	0.00
	24-Dec-2003	15.36	NA	0.00	16.90	NA	NA	0.00
	21-Jan-2004	14.78	NA	0.00	17.48	NA	NA	0.00
	25-Feb-2004	14.50	14.46	0.04	17.80	NA	NA	0.04
	10-Mar-2004	14.70	14.65	0.05	17.60	NA	NA	0.05
	24-Mar-2004	14.85	14.81	0.04	17.45	NA	NA	0.04
	14-Jan-2005	NA	NA	NA	NA	NA	NA	NA
	21-Jan-2005	17.40	NP	0.00	14.86	NP	NP	0.00
	28-Jan-2005	15.40	NP	0.00	16.86	NP	NP	0.00
	25-Feb-2005	15.36	NP	0.00	16.90	NP	NP	0.00
	25-Mar-2005	15.56	15.56	0.00	16.70	0.00	0.00	0.00
	30-Apr-2005	15.31	NP	0.00	16.95	0.00	0.00	0.00
	31-May-2005	15.17	NP	0.00	17.09	0.00	0.00	0.00
	24-Jun-2005	15.17	NP	0.00	17.09	0.00	0.00	0.00
	29-Jul-2005	15.33	NP	0.00	16.93	0.00	0.00	0.00
	26-Aug-2005	15.49	NP	0.00	16.77	0.00	0.00	0.00
	24-Sep-2005	16.69	NP	0.00	15.57	0.00	0.00	0.00
	21-Oct-2005	15.70	NP	0.00	16.56	0.00	0.00	0.00
	28-Nov-2005	15.32	NP	0.00	16.94	0.00	0.00	0.00
	3-Jan-2006	14.82	NP	0.00	17.44	--	--	--
	17-Feb-2006	14.16	NP	0.00	18.10	--	--	--
	13-Mar-2006	14.30	NP	0.00	17.96	--	--	--
	19-Sep-2006	15.58	NP	0.00	16.68	--	--	--
	13-Dec-2006	14.78	NP	0.00	17.48	--	--	--
	29-Mar-2007	14.50	NP	0.00	17.76	0.00	0.00	0.00
	27-Jun-2007	15.15	NP	0.00	17.11	0.00	0.00	0.00
	18-Sep-2007	15.70	NP	0.00	16.56	0.00	0.00	0.00
	6-Dec-2007	15.09	NP	0.00	17.17	0.00	0.00	0.00
(32.26)	10-Mar-2008	14.71	NP	0.00	17.55	0.00	0.00	0.00
	12-Jun-2008	14.83	NP	0.00	17.43	0.00	0.00	0.00
	8-Sep-2008	15.63	NP	0.00	16.63	0.00	0.00	0.00
	29-Dec-2008	Well inadvertently not gauged during groundwater monitoring event.						
	10-Mar-2009	15.70	NP	0.00	16.56	0.00	0.00	0.00
	4-Jun-2009	15.25	NP	0.00	17.01	0.00	0.00	0.00
HC-21								
(31.95)	13-Nov-2003	17.60	NA	0.00	14.35	NA	NA	0.00
	26-Nov-2003	17.41	NA	0.00	14.54	NA	NA	0.00
	24-Dec-2003	16.22	NA	0.00	16.04	NA	NA	0.00
	21-Jan-2004	15.53	NA	0.00	16.73	NA	NA	0.00
	25-Feb-2004	15.32	NA	0.00	16.94	NA	NA	0.00
	24-Mar-2004	14.60	NA	0.00	17.66	NA	NA	0.00
	14-Jan-2005	16.36	NP	0.00	15.59	NP	NP	0.00
	28-Jan-2005	16.53	16.52	0.01	15.43	0.00	0.00	0.00
	25-Feb-2005	16.57	16.57	0.00	15.38	0.00	0.00	0.00
	25-Mar-2005	16.78	16.78	0.00	15.17	0.00	0.00	0.00
	30-Apr-2005	16.44	NP	0.00	15.51	0.00	0.00	0.00
	31-May-2005	16.18	NP	0.00	15.77	0.00	0.00	0.00
	24-Jun-2005	16.29	NP	0.00	15.66	0.00	0.00	0.00
	29-Jul-2005	16.49	NP	0.00	15.46	0.00	0.00	0.00
	26-Aug-2005	16.65	NP	0.00	15.30	0.00	0.00	0.00
	24-Sep-2005	17.70	NP	0.00	14.25	0.00	0.00	0.00
	21-Oct-2005	16.70	NP	0.00	15.25	0.00	0.00	0.00
	28-Nov-2005	16.21	NP	0.00	15.74	0.00	0.00	0.00
	3-Jan-2006	15.07	NP	0.00	16.88	--	--	--
	17-Feb-2006	14.95	NP	0.00	17.00	--	--	--
	13-Mar-2006	15.02	NP	0.00	16.93	--	--	--
	27-Jun-2006	15.62	NP	0.00	16.33	--	--	--
	19-Sep-2006	16.54	NP	0.00	15.41	--	--	--
	13-Dec-2006	15.53	NP	0.00	16.42	--	--	--
	29-Mar-2007	15.09	NP	0.00	16.86	0.00	0.00	0.00
	27-Jun-2007	16.11	NP	0.00	15.84	0.00	0.00	0.00
	18-Sep-2007	16.84	NP	0.00	15.11	0.00	0.00	0.00
(31.95)	6-Dec-2007	15.05	NP	0.00	16.90	0.00	0.00	0.00
	10-Mar-2008	15.29	NP	0.00	16.66	0.00	0.00	0.00
	12-Jun-2008	15.36	NP	0.00	16.59	0.00	0.00	0.00
	8-Sep-2008	16.83	NP	0.00	15.12	0.00	0.00	0.00
	29-Dec-2008	16.44	NP	0.00	15.51	0.00	0.00	0.00
	10-Mar-2009	16.40	NP	0.00	15.55	0.00	0.00	0.00
	4-Jun-2009	16.25	NP	0.00	15.70	0.00	0.00	0.00
	9-Sep-2009	17.37	NP	0.00	14.58	0.00	0.00	0.00
	15-Dec-2009	16.32	NP	0.00	15.63	0.00	0.00	0.00
	11-Mar-2010	15.43	NP	0.00	16.52	0.00	0.00	0.00
	8-Jun-2010	15.14	NP	0.00	16.81	0.00	0.00	0.00
	16-Sep-2010	15.39	NP	0.00	16.56	0.00	0.00	0.00
	13-Dec-2010	14.90	NP	0.00	17.05	0.00	0.00	0.00
9-Jun-2011		13.78	NP	0.00	18.17	0.00	0.00	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
HC-22								
(31.91)	13-Nov-2003	16.04	NA	0.00	15.87	NA	NA	0.00
	26-Nov-2003	15.88	NA	0.00	16.03	NA	NA	0.00
	24-Dec-2003	14.46	NA	0.00	17.80	NA	NA	0.00
	21-Jan-2004	13.79	NA	0.00	18.47	NA	NA	0.00
	25-Feb-2004	13.43	NA	0.00	18.83	NA	NA	0.00
	24-Mar-2004	15.33	NA	0.00	16.93	NA	NA	0.00
	14-Jan-2005	NA	NA	NA	NA	NA	NA	NA
	21-Jan-2005	14.50	NP	0.00	17.41	NP	NP	0.00
	28-Jan-2005	14.46	NP	0.00	17.45	0.00	0.00	0.00
	25-Feb-2005	15.49	15.49	0.00	16.42	0.00	0.00	0.00
	25-Mar-2005	15.65	15.65	0.00	16.26	0.00	0.00	0.00
	30-Apr-2005	14.36	NP	0.00	17.55	0.00	0.00	0.00
	31-May-2005	14.15	NP	0.00	17.76	0.00	0.00	0.00
	24-Jun-2005	14.22	NP	0.00	17.69	0.00	0.00	0.00
	29-Jul-2005	14.39	NP	0.00	17.52	0.00	0.00	0.00
	26-Aug-2005	14.55	NP	0.00	17.36	0.00	0.00	0.00
	24-Sep-2005	14.70	NP	0.00	17.21	0.00	0.00	0.00
	21-Oct-2005	14.81	NP	0.00	17.10	0.00	0.00	0.00
	28-Nov-2005	14.39	NP	0.00	17.52	0.00	0.00	0.00
	3-Jan-2006	13.69	NP	0.00	18.22	--	--	--
	17-Feb-2006	13.07	NP	0.00	18.84	--	--	--
	13-Mar-2006	13.15	NP	0.00	18.76	--	--	--
	27-Jun-2006	13.82	NP	0.00	18.09	--	--	--
	19-Sep-2006	14.45	NP	0.00	17.46	--	--	--
	13-Dec-2006	13.74	NP	0.00	18.17	--	--	--
	29-Mar-2007	13.45	NP	0.00	18.46	0.00	0.00	0.00
	27-Jun-2007	14.14	NP	0.00	17.77	0.00	0.00	0.00
	18-Sep-2007	14.74	NP	0.00	17.17	0.00	0.00	0.00
	6-Dec-2007	14.07	NP	0.00	17.84	0.00	0.00	0.00
	10-Mar-2008	13.68	NP	0.00	18.23	0.00	0.00	0.00
	8-Sep-2008	14.67	NP	0.00	17.24	0.00	0.00	0.00
	29-Dec-2008	13.91	NP	0.00	18.00	0.00	0.00	0.00
	10-Mar-2009	14.18	NP	0.00	17.73	0.00	0.00	0.00
	4-Jun-2009	14.24	NP	0.00	17.67	0.00	0.00	0.00
HC-23								
(32.74)	13-Nov-2003	15.28	NA	0.00	17.46	NA	NA	0.00
	26-Nov-2003	14.88	NA	0.00	17.86	NA	NA	0.00
	24-Dec-2003	15.23	15.15	0.08	17.58	Trace	Trace	< 0.01
	30-Dec-2003	15.22	15.05	0.17	17.67	Trace	Trace	< 0.01
	9-Jan-2004	14.85	14.77	0.08	17.96	Trace	Trace	0.01
	15-Jan-2004	14.61	NA	0.00	18.13	NA	Trace	0.00
	21-Jan-2004	14.42	14.41	0.01	18.33	Trace	Trace	0.01
	3-Feb-2004	14.05	NA	0.00	18.69	NA	Trace	0.00
	18-Feb-2004	14.05	NA	0.00	18.69	NA	Trace	0.00
	25-Feb-2004	13.98	NA	0.00	18.76	NA	Trace	0.00
	10-Mar-2004	14.15	NA	0.00	18.59	NA	Trace	0.00
	24-Mar-2004	14.33	NA	0.00	18.41	NA	Trace	0.00
	14-Jan-2005	NA	NA	NA	NA	NA	NA	NA
	21-Jan-2005	15.35	15.30	0.05	17.43	Trace	Trace	0.00
	28-Jan-2005	15.28	15.27	0.01	17.47	0.00	0.00	0.00
	25-Feb-2005	15.31	15.30	0.01	17.44	0.00	0.00	0.00
	25-Mar-2005	15.48	15.45	0.03	17.29	0.00	0.00	0.03
	30-Apr-2005	15.18	NP	0.00	17.56	0.00	0.00	0.00
	31-May-2005	14.95	NP	0.00	17.79	0.00	0.00	0.00
	24-Jun-2005	15.01	14.96	0.05	17.77	0.00	0.00	0.05
	29-Jul-2005	16.25	16.25	0.00	16.49	0.00	0.00	0.00
	26-Aug-2005	15.51	15.30	0.21	17.42	0.5	0.5	0.05
	9-Sep-2005	15.49	15.40	0.09	17.33	0.00	0.5	0.09
	24-Sep-2005	15.64	15.47	0.17	17.25	0.05	0.55	0.05
	10-Oct-2005	15.55	15.52	0.03	17.22	0.00	0.55	0.03
	21-Oct-2005	15.47	15.45	0.02	17.29	0.00	0.55	0.02
	28-Nov-2005	15.27	15.27	0.00	17.47	0.00	0.55	< 0.01
	3-Jan-2006	14.75	NP	0.00	17.99	--	--	--
	17-Feb-2006	13.73	NP	0.00	19.01	--	--	--
	13-Mar-2006	13.91	NP	0.00	18.83	--	--	--
	19-Sep-2006	15.25	15.23	0.02	17.51	--	--	--
	13-Dec-2006	14.68	14.65	0.03	18.09	--	--	--
	29-Mar-2007	14.20	14.19	0.01	18.55	0.00	0.00	0.01
	27-Jun-2007	14.93	14.91	0.02	17.83	0.00	0.00	0.02
	18-Sep-2007	15.59	15.56	0.03	17.18	0.00	0.00	0.03
	6-Dec-2007	15.51	NP	0.00	17.23	0.00	0.00	0.03
	10-Mar-2008	14.37	NP	0.00	18.37	0.00	0.00	0.00
	12-Jun-2008	14.65	NP	0.00	18.09	0.00	0.00	0.00
	8-Sep-2008	15.50	NP	0.00	17.24	0.00	0.00	0.00
	29-Dec-2008	15.50	NP	0.00	17.24	0.00	0.00	0.00
	10-Mar-2009	15.04	NP	0.00	17.70	0.00	0.00	0.00
	4-Jun-2009	15.04	NP	0.00	17.70	0.00	0.00	0.00
	9-Sep-2009	15.81	NP	0.00	16.93	0.00	0.00	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
HC-23 <i>(continued)</i>	15-Dec-2009	15.12	NP	0.00	17.62	0.00	0.00	0.00
	11-Mar-2010	14.55	NP	0.00	18.19	0.00	0.00	0.00
	8-Jun-2010	14.48	NP	0.00	18.26	0.00	0.00	0.00
	16-Sep-2010	15.11	NP	0.00	17.63	0.00	0.00	0.00
	13-Dec-2010	14.60	NP	0.00	18.14	0.00	0.00	0.00
	9-Jun-2011	13.60	SHEEN	0.00	19.14	0.00	0.00	0.00
HC-24 <i>(30.04)</i>	13-Nov-2003	15.08	NA	0.00	14.96	NA	NA	0.00
	26-Nov-2003	14.68	NA	0.00	15.36	NA	NA	0.00
	24-Dec-2003	13.82	NA	0.00	16.22	NA	NA	0.00
	21-Jan-2004	13.13	NA	0.00	16.91	NA	NA	0.00
	25-Feb-2004	12.35	NA	0.00	17.69	NA	NA	0.00
	24-Mar-2004	12.61	NA	0.00	17.43	NA	NA	0.00
	14-Jan-2005	14.90	NP	0.00	15.14	NP	NP	0.00
	28-Jan-2005	15.79	NP	0.00	14.25	NP	NP	0.00
	25-Feb-2005	14.80	14.80	0.00	15.24	0.00	0.00	0.00
	25-Mar-2005	15.07	15.07	0.00	14.97	0.00	0.00	0.00
	30-Apr-2005	14.62	NP	0.00	15.42	0.00	0.00	0.00
	31-May-2005	17.34	NP	0.00	12.70	0.00	0.00	0.00
	24-Jun-2005	14.30	NP	0.00	15.74	0.00	0.00	0.00
	29-Jul-2005	14.60	NP	0.00	15.44	0.00	0.00	0.00
	26-Aug-2005	14.92	NP	0.00	15.12	0.00	0.00	0.00
	24-Sep-2005	15.18	NP	0.00	14.86	0.00	0.00	0.00
	21-Oct-2005	15.33	NP	0.00	14.71	0.00	0.00	0.00
	28-Nov-2005	14.55	NP	0.00	15.49	0.00	0.00	0.00
	3-Jan-2006	13.53	NP	0.00	16.51	0.00	0.00	0.00
	17-Feb-2006	12.23	NP	0.00	17.81	0.00	0.00	0.00
	13-Mar-2006	12.38	NP	0.00	17.66	0.00	0.00	0.00
	27-Jun-2006	13.31	NP	0.00	16.73	0.00	0.00	0.00
	19-Sep-2006	14.64	NP	0.00	15.40	0.00	0.00	0.00
	13-Dec-2006	12.84	NP	0.00	17.20	0.00	0.00	0.00
	29-Mar-2007	12.30	NP	0.00	17.74	0.0	0.0	0.00
	27-Jun-2007	13.74	13.73	0.01	16.31	0.0	0.0	0.01
	18-Sep-2007	14.99	NP	0.00	15.05	0.0	0.0	0.00
	6-Dec-2007	13.13	NP	0.00	16.91	0.0	0.0	0.00
EX-1 <i>(33.08)</i>	27-Aug-2003	15.78	NA	0.00	14.26	NA	NA	0.00
	3-Sep-2003	15.88	NA	0.00	14.16	NA	NA	0.00
	11-Sep-2003	16.06	NA	0.00	13.98	NA	NA	0.00
	17-Sep-2003	16.21	NA	0.00	13.83	NA	NA	0.00
	30-Sep-2003	16.22	NA	0.00	13.82	NA	NA	0.00
	14-Oct-2003	16.25	NA	0.00	13.79	NA	NA	0.00
	29-Oct-2003	16.38	NA	0.00	13.66	NA	NA	0.00
	13-Nov-2003	16.45	NA	0.00	13.59	NA	NA	0.00
	26-Nov-2003	16.07	NA	0.00	13.97	NA	NA	0.00
	24-Dec-2003	15.46	NA	0.00	14.58	NA	NA	0.00
	21-Jan-2004	15.06	NA	0.00	14.98	NA	NA	0.00
	25-Feb-2004	14.53	NA	0.00	15.51	NA	NA	0.00
	24-Mar-2004	14.84	NA	0.00	15.20	NA	NA	0.00
	28-Jan-2005	15.79	NP	0.00	14.25	0.00	0.00	0.00
	25-Feb-2005	14.80	14.80	0.00	15.24	0.00	0.00	0.00
	25-Mar-2005	15.07	15.07	0.00	14.97	0.00	0.00	0.00
	30-Apr-2005	14.62	NP	0.00	15.42	0.00	0.00	0.00
	31-May-2005	17.34	NP	0.00	12.70	0.00	0.00	0.00
	24-Jun-2005	14.30	NP	0.00	15.74	0.00	0.00	0.00
	29-Jul-2005	14.60	NP	0.00	15.44	0.00	0.00	0.00
	26-Aug-2005	14.92	NP	0.00	15.12	0.00	0.00	0.00
	24-Sep-2005	15.18	NP	0.00	14.86	0.00	0.00	0.00
	21-Oct-2005	15.33	NP	0.00	14.71	0.00	0.00	0.00
	28-Nov-2005	14.55	NP	0.00	15.49	0.00	0.00	0.00
	3-Jan-2006	13.53	NP	0.00	16.51	--	--	--
	17-Feb-2006	12.23	NP	0.00	17.81	--	--	--
	13-Mar-2006	12.38	NP	0.00	17.66	--	--	--
	27-Jun-2006	13.31	NP	0.00	16.73	--	--	--
	19-Sep-2006	14.64	NP	0.00	15.40	--	--	--
	13-Dec-2006	12.84	NP	0.00	17.20	--	--	--
	29-Mar-2007	12.30	NP	0.00	17.74	0.0	0.0	0.00
	27-Jun-2007	13.74	13.73	0.01	16.31	0.0	0.0	0.01
	18-Sep-2007	14.99	NP	0.00	15.05	0.0	0.0	0.00
	6-Dec-2007	13.13	NP	0.00	16.91	0.0	0.0	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
<i>EX-1 (continued)</i> (30.04)	10-Mar-2008	12.72	NP	0.00	17.32	0.0	0.0	0.00
	12-Jun-2008	13.22	NP	0.00	16.82	0.0	0.0	0.00
	8-Sep-2008	14.68	NP	0.00	15.36	0.0	0.0	0.00
	29-Dec-2008	13.05	NP	0.00	16.99	0.0	0.0	0.00
	10-Mar-2009	--	--	--	--	--	--	--
	24-Jun-2009	--	--	--	--	--	--	--
<i>BE-1 (19.75)</i>	24-Jun-2005	10.01	NP	0.00	9.74	0.00	0.00	0.00
	29-Jul-2005	10.23	NP	0.00	9.52	0.00	0.00	0.00
	26-Aug-2005	10.27	NP	0.00	9.48	0.00	0.00	0.00
	24-Sep-2005	10.22	NP	0.00	9.53	0.00	0.00	0.00
	21-Oct-2005	10.10	NP	0.00	9.65	0.00	0.00	0.00
	28-Nov-2005	9.91	NP	0.00	9.84	0.00	0.00	0.00
	3-Jan-2006	NA	NA	NA	NA	NA	NA	NA
	17-Feb-2006	9.61	NP	0.00	10.14	--	--	--
	13-Mar-2006	9.55	NP	0.00	10.20	--	--	--
	27-Jun-2006	9.66	NP	0.00	10.09	--	--	--
	19-Sep-2006	10.10	NP	0.00	9.65	--	--	--
	13-Dec-2006	6.57	NP	0.00	13.18	--	--	--
	29-Mar-2007	6.23	NP	0.00	13.52	0.00	0.00	0.00
	27-Jun-2007	6.76	NP	0.00	12.99	0.00	0.00	0.00
	18-Sep-2007	7.79	NP	0.00	11.96	0.00	0.00	0.00
	6-Dec-2007	6.38	NP	0.00	13.37	0.00	0.00	0.00
	10-Mar-2008	6.49	NP	0.00	13.26	0.00	0.00	0.00
	12-Jun-2008	3.90	NP	0.00	15.85	0.00	0.00	0.00
	8-Sep-2008	7.08	NP	0.00	12.67	0.00	0.00	0.00
	29-Dec-2008	6.51	NP	0.00	13.24	0.00	0.00	0.00
	10-Mar-2009	6.89	NP	0.00	12.86	0.00	0.00	0.00
	4-Jun-2009	5.63	NP	0.00	14.12	0.00	0.00	0.00
	9-Sep-2009	7.25	NP	0.00	12.50	0.00	0.00	0.00
	15-Dec-2009	7.01	NP	0.00	12.74	0.00	0.00	0.00
	11-Mar-2010	6.72	NP	0.00	13.03	0.00	0.00	0.00
	8-Jun-2010	2.40	NP	0.00	17.35	0.00	0.00	0.00
	16-Sep-2010	6.86	NP	0.00	12.89	0.00	0.00	0.00
	13-Dec-2010	6.15	NP	0.00	13.60	0.00	0.00	0.00
	21-Jun-2011	2.09	NP	0.00	17.66	0.00	0.00	0.00
<i>BE-2 (19.69)</i>	24-Jun-2005	8.94	NP	0.00	10.75	0.00	0.00	0.00
	29-Jul-2005	9.04	NP	0.00	10.65	0.00	0.00	0.00
	26-Aug-2005	9.12	NP	0.00	10.57	0.00	0.00	0.00
	24-Sep-2005	6.02	NP	0.00	13.67	0.00	0.00	0.00
	21-Oct-2005	8.95	NP	0.00	10.74	0.00	0.00	0.00
	28-Nov-2005	8.64	NP	0.00	11.05	0.00	0.00	0.00
	3-Jan-2006	NA	NA	NA	NA	NA	NA	NA
	17-Feb-2006	8.43	NP	0.00	11.26	--	--	--
	13-Mar-2006	8.21	NP	0.00	11.48	--	--	--
	27-Jun-2006	8.45	NP	0.00	11.24	--	--	--
	19-Sep-2006	8.79	NP	0.00	10.90	--	--	--
	13-Dec-2006	8.57	NP	0.00	11.12	--	--	--
	29-Mar-2007	8.07	NP	0.00	11.62	0.00	0.00	0.00
	27-Jun-2007	8.55	NP	0.00	11.14	0.00	0.00	0.00
	18-Sep-2007	8.90	NP	0.00	10.79	0.00	0.00	0.00
	6-Dec-2007	7.89	NP	0.00	11.80	0.00	0.00	0.00
	10-Mar-2008	8.21	NP	0.00	11.48	0.00	0.00	0.00
	12-Jun-2008	5.73	NP	0.00	13.96	0.00	0.00	0.00
	8-Sep-2008	8.98	NP	0.00	10.71	0.00	0.00	0.00
	29-Dec-2008				Well Destroyed			
<i>BE-3 (17.55)</i>	24-Jun-2005	6.42	NP	0.00	11.13	0.00	0.00	0.00
	29-Jul-2005	6.66	NP	0.00	10.89	0.00	0.00	0.00
	26-Aug-2005	6.79	NP	0.00	10.76	0.00	0.00	0.00
	24-Sep-2005	6.80	NP	0.00	10.75	0.00	0.00	0.00
	21-Oct-2005	6.75	NP	0.00	10.80	0.00	0.00	0.00
	28-Nov-2005	6.58	NP	0.00	10.97	0.00	0.00	0.00
	3-Jan-2006	NA	NA	NA	NA	NA	NA	NA
	17-Feb-2006	6.64	NP	0.00	10.91	--	--	--
	13-Mar-2006	6.47	NP	0.00	11.08	--	--	--
	27-Jun-2006	6.31	NP	0.00	11.24	--	--	--
	19-Sep-2006	6.83	NP	0.00	10.72	--	--	--
	13-Dec-2006	9.47	NP	0.00	8.08	--	--	--
	29-Mar-2007	9.44	NP	0.00	8.11	0.00	0.00	0.00
	27-Jun-2007	9.99	NP	0.00	7.56	0.00	0.00	0.00
	18-Sep-2007	10.13	NP	0.00	7.42	0.00	0.00	0.00
	6-Dec-2007	8.79	NP	0.00	8.76	0.00	0.00	0.00
	10-Mar-2008	10.41	NP	0.00	7.14	0.00	0.00	0.00
	12-Jun-2008	5.97	NP	0.00	11.58	0.00	0.00	0.00
	8-Sep-2008	10.18	NP	0.00	7.37	0.00	0.00	0.00
	29-Dec-2008	9.59	NP	0.00	7.96	0.00	0.00	0.00
	10-Mar-2009	9.85	NP	0.00	7.70	0.00	0.00	0.00
	4-Jun-2009	8.13	NP	0.00	9.42	0.00	0.00	0.00

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
BE-2 <i>(continued)</i>	9-Sep-2009	10.36	NP	0.00	7.19	0.00	0.00	0.00
	15-Dec-2009	9.88	NP	0.00	7.67	0.00	0.00	0.00
	11-Mar-2010	9.65	NP	0.00	7.90	0.00	0.00	0.00
	8-Jun-2010	4.60	NP	0.00	12.95	0.00	0.00	0.00
	16-Sep-2010	9.81	NP	0.00	7.74	0.00	0.00	0.00
	13-Dec-2010	8.67	NP	0.00	8.88	0.00	0.00	0.00
	9-Jun-2011	1.89	NP	0.00	15.66	0.00	0.00	0.00
BE-4 (31.16)	24-Jun-2005	18.81	NP	0.00	12.35	0.00	0.00	0.00
	29-Jul-2005	19.14	NP	0.00	12.02	0.00	0.00	0.00
	26-Aug-2005	19.07	NP	0.00	12.09	0.00	0.00	0.00
	24-Sep-2005	18.75	NP	0.00	12.41	0.00	0.00	0.00
	21-Oct-2005	18.29	NP	0.00	12.87	0.00	0.00	0.00
	28-Nov-2005	17.39	17.39	0.00	13.77	0.00	0.00	0.00
	3-Jan-2006	14.72	14.69	0.03	16.47	0.00	0.00	0.03
	17-Feb-2006	14.88	14.82	0.06	16.33	0.00	0.00	0.06
	13-Mar-2006	15.55	15.51	0.04	15.65	0.00	0.00	0.04
	27-Jun-2006	16.03	15.95	0.08	15.20	0.00	0.00	0.08
	19-Sep-2006	17.01	16.79	0.22	14.35	0.75	0.75	0.02
	13-Dec-2006	15.67	15.66	0.01	15.50	0.00	0.75	0.02
	29-Mar-2007	15.25	15.18	0.07	15.97	0.00	0.00	0.07
	27-Jun-2007	16.51	16.31	0.20	14.83	1.00	1.00	0.01
	9-Aug-2007	16.85	16.47	0.38	14.65	0.50	1.50	0.01
	22-Aug-2007	16.82	16.58	0.24	14.55	1.00	2.50	0.01
	7-Sep-2007	17.62	16.76	0.86	14.31	1.50	4.00	0.01
	14-Sep-2007	18.16	18.06	0.10	13.09	0.25	4.25	0.00
	4-Oct-2007	16.81	16.71	0.10	14.44	0.40	4.65	0.00
	11-Oct-2007	16.74	16.66	0.08	14.49	0.00	4.65	0.08
	24-Oct-2007	16.62	16.54	0.08	14.61	0.00	4.65	0.08
	8-Nov-2007	16.78	16.71	0.07	14.44	0.00	4.65	0.07
	21-Nov-2007	16.68	16.60	0.08	14.55	0.00	4.65	0.08
	7-Dec-2007	14.16	14.13	0.03	17.03	0.00	4.65	0.03
	21-Dec-2007	15.76	15.75	0.01	15.41	0.00	4.65	0.01
	3-Jan-2008	14.64	14.63	0.01	16.53	0.00	0.00	0.01
	18-Jan-2008	14.32	14.31	0.01	16.85	0.00	0.00	0.01
	24-Jan-2008	14.98	14.95	0.03	16.21	0.00	0.00	0.03
	31-Jan-2008	15.31	15.28	0.03	15.88	0.00	0.00	0.03
	6-Feb-2008	14.17	14.16	0.01	17.00	0.00	0.00	0.03
	15-Feb-2008	14.18	SHEEN	0.00	16.98	0.00	0.00	SHEEN
	29-Feb-2008	15.35	SHEEN	0.00	15.81	0.00	0.00	SHEEN
	10-Mar-2008	16.61	SHEEN	0.00	14.55	0.00	0.00	SHEEN
	21-Mar-2008	15.63	SHEEN	0.00	15.53	0.00	0.00	SHEEN
	11-Apr-2008	15.69	15.67	0.02	15.49	0.00	0.00	SHEEN
	17-Apr-2008	15.76	15.71	0.05	15.44	0.00	0.00	SHEEN
	24-Apr-2008	15.72	15.67	0.05	15.48	0.05	0.05	SHEEN
	2-May-2008	15.73	15.66	0.07	15.49	0.00	0.05	SHEEN
	8-May-2008	16.02	15.78	0.24	15.35	0.10	0.15	0.01
	14-May-2008	16.00	15.93	0.07	15.22	0.00	0.15	0.07
	30-May-2008	15.22	15.18	0.04	15.98	0.00	0.15	0.04
	13-Jun-2008	15.30	15.26	0.04	15.90	0.00	0.15	0.04
	25-Jun-2008	15.78	15.76	0.02	15.40	0.00	0.15	0.02
	11-Jul-2008	16.34	16.08	0.26	15.05	0.05	0.20	0.01
	28-Jul-2008	16.65	16.35	0.30	14.78	0.07	0.27	SHEEN
	13-Aug-2008	16.92	16.60	0.32	14.52	0.13	0.40	0.01
	27-Aug-2008	16.98	16.73	0.25	14.40	0.53	0.93	0.01
	8-Sep-2008	17.12	16.82	0.30	14.31	0.53	1.46	0.02
	18-Sep-2008	17.16	16.92	0.24	14.21	0.66	2.12	SHEEN
	30-Sep-2008	17.28	17.05	0.23	14.08	0.05	2.17	0.01
	16-Oct-2008	17.40	17.18	0.22	13.96	0.10	2.27	0.01
	30-Oct-2008	17.42	17.25	0.17	13.89	0.20	2.47	SHEEN
	14-Nov-2008	16.92	16.91	0.01	14.25	0.00	2.47	0.01
	26-Nov-2008	16.98	16.94	0.04	14.22	0.00	2.47	0.04
	29-Dec-2008	16.54	16.52	0.02	14.64	0.00	2.47	0.02
	15-Jan-2009	15.39	15.37	0.02	15.79	0.00	0.00	0.02
	23-Jan-2009	15.93	15.92	0.01	15.24	0.00	0.00	0.01
	29-Jan-2009	16.11	16.10	0.01	15.06	0.00	0.00	0.01
	4-Feb-2009	16.18	16.17	0.01	14.99	0.00	0.00	0.01
	12-Feb-2009	16.40	16.34	0.06	14.81	0.00	0.00	0.06
	19-Feb-2009	12.58	12.56	0.02	18.60	0.00	0.00	0.02
	10-Mar-2009	16.60	16.54	0.06	14.61	0.00	0.00	0.06
	27-Mar-2009	16.63	16.49	0.14	14.65	0.05	0.05	0.02
	16-Apr-2009	16.67	16.59	0.08	14.56	0.00	0.05	0.08
	14-May-2009	16.76	16.53	0.23	14.60	0.05	0.10	SHEEN
	4-Jun-2009	16.35	16.27	0.08	14.88	0.00	0.10	0.08
	13-Jul-2009	17.15	17.06	0.09	14.09	0.00	0.10	0.09
	10-Aug-2009	17.43	17.09	0.34	14.03	0.01	0.11	0.01
	9-Sep-2009	17.29	17.26	0.03	13.90	0.03	0.14	0.03
	15-Oct-2009	17.93	17.39	0.54	13.71	0.03	0.17	SHEEN
	18-Nov-2009	16.92	16.72	0.20	14.42	0.05	0.22	SHEEN
	15-Dec-2009	16.62	16.45	0.17	14.69	0.02	0.24	0.01
	13-Jan-2010	15.64	15.56	0.08	15.59	0.00	0.00	0.08
	2-Mar-2010	15.74	15.66	0.08	15.49	0.00	0.00	0.08

Please refer to notes at end of table.

TABLE 1
GROUNDWATER AND PRODUCT LEVEL MONITORING
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Well ID [Casing Elevation]	Date	Initial Measurements [feet]				Product Removal [gallons]		Final Product Thickness [feet]
		Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation *	Discrete Event	Cumulative	
BE-4 <i>(continued)</i>	11-Mar-2010	15.78	15.70	0.08	15.45	0.00	0.00	0.08
	25-Mar-2010	15.95	15.80	0.15	15.34	0.10	0.10	0.01
	2-Apr-2010	15.65	15.65	SHEEN	15.65	0.00	0.00	SHEEN
	9-Apr-2010	15.62	15.41	0.21	15.73	0.25	0.25	0.08
	16-Apr-2010	15.67	15.45	0.22	15.69	0.25	0.50	0.01
	23-Apr-2010	15.70	15.62	0.08	15.53	0.00	0.50	0.08
	8-Jun-2010	13.61	13.59	0.02	17.57	0.00	0.50	0.02
	9-Jul-2010	14.63	14.61	0.02	16.55	0.00	0.00	0.02
	23-Jul-2010	15.90	15.89	0.01	15.27	0.00	0.00	0.01
	6-Aug-2010	16.29	16.00	0.29	15.13	0.25	0.25	0.05
	19-Aug-2010	16.37	16.31	0.06	14.84	0.00	0.25	0.05
	27-Aug-2010	16.41	16.19	0.22	14.95	0.50	0.75	0.04
	17-Sep-2010	16.55	16.33	0.22	14.81	0.25	1.00	0.05
	8-Oct-2010	16.44	16.42	0.02	14.74	0.00	0.00	0.02
	11-Nov-2010	16.94	16.81	0.13	14.34	0.05	0.05	0.01
	15-Dec-2010	14.22	14.06	0.16	17.08	0.25	0.30	0.02
	21-Dec-2010	14.15	13.95	0.20	17.19	0.20	0.50	0.02
	30-Dec-2010	13.68	13.25	0.43	17.86	0.50	1.00	0.01
	6-Jan-2011	13.67	13.64	0.03	17.52	0.00	0.00	0.03
	13-Jan-2011	13.92	13.89	0.03	17.27	0.00	0.00	0.03
	19-Jan-2011	13.87	13.83	0.04	17.33	0.00	0.00	0.04
	28-Jan-2011	14.13	14.11	0.02	17.05	0.00	0.00	0.02
	9-Feb-2011	15.03	15.01	0.02	16.15	0.00	0.00	0.02
	23-Feb-2011	15.18	15.17	0.01	15.99	0.00	0.00	0.01
	9-Mar-2011	15.38	15.34	0.04	15.82	0.00	0.00	0.04
	29-Mar-2011	14.00	13.96	0.04	17.20	0.00	0.00	0.04
	21-Apr-2011	13.93	13.90	0.03	17.26	0.00	0.00	0.03
	6-May-2011	14.14	14.10	0.04	17.06	0.00	0.00	0.04
	9-Jun-2011	13.02	13.01	0.01	18.15	0.00	0.00	0.01
BE-5 <i>(21.12)</i>	9-Sep-2009	11.08	NP	0.00	10.04	0.00	0.00	0.00
	15-Dec-2009	10.87	NP	0.00	10.25	0.00	0.00	0.00
	11-Mar-2010	10.61	NP	0.00	10.51	0.00	0.00	0.00
	8-Jun-2010	6.04	NP	0.00	15.08	0.00	0.00	0.00
	16-Sep-2010	10.87	NP	0.00	10.25	0.00	0.00	0.00
	13-Dec-2010	9.52	NP	0.00	11.60	0.00	0.00	0.00
	9-Jun-2011	3.29	NP	0.00	17.83	0.00	0.00	0.00

Notes:

1. The LNAPL monitoring program was reduced in March 2006 to include only wells MW-19 and MW-20, approved by the DEQ in an April 6, 2006 letter.
2. Passive product skimmers were installed in wells MW-19 and MW-20 in June 2006; water level measurements were discontinued.
3. NA = Not Available/Not Accessible.
4. NP = No Product at the time of the monitoring event.
5. * Phreatic Elevation = (Casing Elevation - Depth to Water) + S_g * (Product Thickness). S_g = 0.89
6. Sheen observed in Slip, but away from bank.
7. -- = Not measured or not applicable.
8. Shading denotes data from the third quarter of 2010.

TABLE 2
LNAPL RECOVERY
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Wells	MW-15	MW-17	MW-19	MW-20	HC-10	BE-4	
Date	LNAPL Removed (gallons)						Total
2005 Total	Data for individual wells not shown						24
2006 Total	Data for individual wells not shown						61
2007 Total	Data for individual wells not shown						100
2008 Total	Data for individual wells not shown						71
1Q09 Total	0.00	1.98	2.77	2.48	0.00	0.05	7.28
2Q09 Total	0.00	0.07	0.03	0.05	0.08	0.05	0.28
3Q09 Total	1.95	0.13	0.04	0.00	0.07	0.04	2.23
4Q09 Total	0.64	0.16	0.00	0.00	0.00	0.10	0.90
2009 Total	2.59	2.34	2.84	2.53	0.15	0.24	10.69
1Q10 Total	1.53	6.93	27.35	13.50	0.25	0.10	49.66
2Q10 Total	0.50	2.90	12.75	10.75	0.63	0.50	55.53
3Q10 Total	1.00	2.75	10.75	6.80	1.00	1.00	23.30
4Q10 Total	1.50	2.90	10.95	10.35	0.50	1.00	27.20
2010 Total	4.53	15.48	61.80	41.40	2.38	2.60	155.69
1/6/2011	0.05	0.75	2.25	2.00	0.25	0.00	5.30
1/13/2011	0.00	0.75	2.50	1.00	0.00	0.00	4.25
1/19/2011	0.00	0.50	2.25	0.75	0.25	0.00	3.75
1/28/2011	0.00	0.75	0.15	0.75	0.25	0.00	1.90
2/9/2011	0.00	1.50	2.50	2.00	0.25	0.00	6.25
2/23/2011	Vacuum Truck Event						0.10
3/9/2011	0.00	0.4	0.85	0.75	0.25	0.00	2.25
3/29/2011	0.00	2.5	1.25	1.25	0.25	0.00	5.25
4/21/2011	0.00	1.2	0.6	1.00	0.30	0.00	3.10
5/6/2011	0.00	0.5	0	1.00	0.15	0.00	1.65
6/10/2011	0.00	0.5	0.00	0.95	0.20	0.00	1.65
1SA11 Total	0.05	9.35	12.35	11.45	2.25	0.00	41.84
2011 Total	0.05	9.35	12.35	11.45	2.25	0.00	41.84

Notes:

1. As per the April 6, 2006 letter, the current LNAPL recovery program includes wells MW-19 and MW-20. If during quarterly monitoring, LNAPL returns to other wells at a thickness that is practical for recovery (greater than 0.1 foot), the LNAPL is removed.
2. -- = Unable to monitor or product thickness is only monitored during quarterly events.
3. On May 20, 2010 a high vacuum extraction event was completed in wells MW-15, MW-17, MW-19, and MW-20.
4. On February 23, 2011 a high vacuum extraction event was completed in wells MW-15, MW-17, MW-19, and MW-20.

TABLE 3
GROUNDWATER ELEVATIONS
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Monitoring Well	Top of Casing Elevation [feet]	Sample Date	Depth to LNAPL [feet]	Depth to Water [feet]	Product Thickness [feet]	Groundwater Elevation [feet MSL] ¹
MW-8	31.13	6/9/2011	--	14.84	--	16.29
MW-14	31.32	6/9/2011	--	14.99	--	16.33
MW-15	31.57	6/9/2011	Sheen	14.45	Sheen	17.12
MW-17	28.40	6/9/2011	12.05	12.58	0.53	16.29
MW-19	30.73	6/9/2011	13.86	13.93	0.07	16.86
MW-20	30.73	6/9/2011	14.33	15.15	0.82	16.31
HC-5	32.10	6/9/2011	Sheen	15.78	Sheen	16.32
HC-10	29.30	6/9/2011	13.12	13.42	0.30	16.15
HC-19	33.05	6/9/2011	--	15.12	--	17.93
HC-21	31.95	6/9/2011	--	13.78	--	18.17
HC-23	32.74	6/9/2011	--	13.60	--	19.14
HC-24	30.04	6/9/2011	Sheen	11.84	Sheen	18.20
BE-1	19.75	6/21/2011	--	2.09	--	17.66
BE-2	19.69	6/9/2011			Well Destroyed	
BE-3	17.55	6/9/2011	--	1.89	--	15.66
BE-4	31.16	6/9/2011	13.01	13.02	0.01	18.15
BE-5	21.12	6/9/2011	--	3.29	--	17.83

Notes:

1. MSL = Mean Sea Level.
2. NA = Not Available (well not accessible).
3. NS = Not Surveyed.
4. -- = Not applicable or not measured.
5. Skimmers were installed in wells MW-19 and MW-20 in June 2006.
Measured depths to water do not reflect actual groundwater elevations.

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

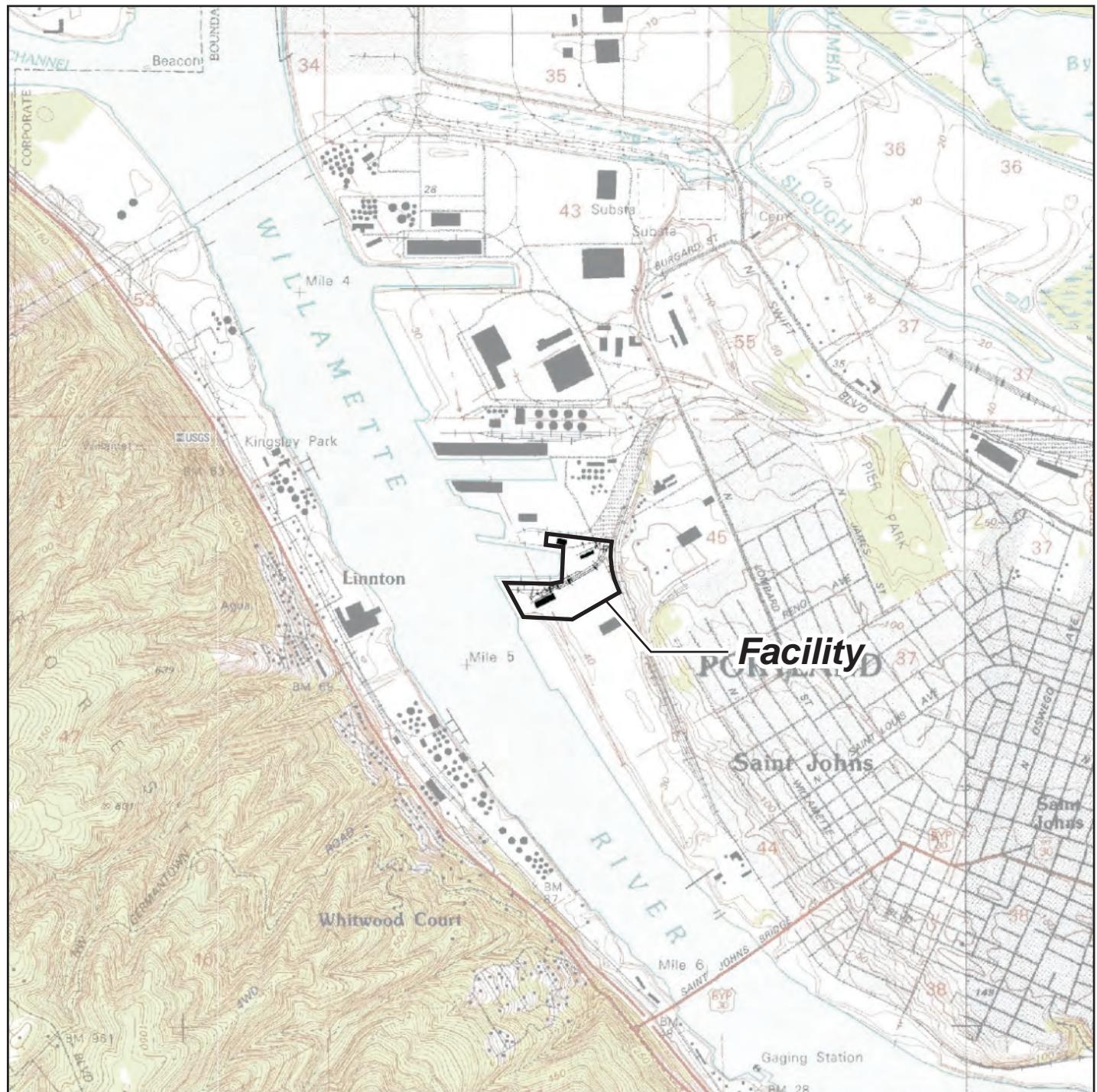
Please refer to notes on last page of table.

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Sample Point	Sample Date	Analyte Concentration in µg/L (ppb)																		
		Total Petroleum Hydrocarbons			Polynuclear Aromatic Hydrocarbons (PAHs)															
		Diesel-Range	Residual-Range		Acenaphthene	Acenaphthylene	Anthracene	BAA	BAP	BBF	BGP	BKF	Chrysene	DAA	Fluoranthene	Fluorene	ICP	Naphthalene	Phenanthrene	Pyrene
HC-21 (Cont)	6/8/2010	246 Q11	<472		<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.190	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	
	9/16/2010	1,480 Q11	133 J		<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.190	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	
	12/13/2010	2,080 Q12	631 Q7		<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.190	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	
	6/9/2011	1,110 Q11	102 J	<0.0943	<0.0943		0.314	0.396	0.343	0.341	0.331	0.340	<0.189	0.409	<0.0943	0.306	<0.0943	0.217	0.506	
	5/10/2004	736	< 500	1.21	< 0.25	< 0.3	< 0.1	0.118	0.101	< 0.1	0.109	< 0.2	0.144	3.51	< 0.1	< 1.5	4.09	0.163		
HC-24	2/11/2005	4,500 J	970 J	1.2	--	--	0.11	0.15	--	--	--	--	0.18	5.4	--	< 0.55	1.8	--		
	6/6/2005	450 Y	30 J	1.1	< 0.25	0.13	0.021	0.019 J	0.019 J	0.015 J	0.018 J	0.022	< 0.020	0.053	5.0	0.019 J	< 0.63	2.8	0.071	
	9/15/2005	4,480 J	536	0.594	< 0.146	< 0.243	0.288	0.370	0.342	0.247	0.363	< 0.194	0.427	3.79	0.224	< 0.874	0.698	0.462		
	12/7/2005	837	< 481	0.861	< 0.144	< 0.192	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.192	< 0.0962	2.83	< 0.0962	< 1.06	1.91	< 0.0962		
	3/13/2006	706	< 481	0.441	< 0.153	< 0.102	< 0.102	< 0.102	< 0.102	< 0.102	< 0.102	< 0.204	< 0.102	1.60	< 0.102	< 0.255	1.06	< 0.102		
	6/28/2006	1,020	< 476	1.99	< 0.377	0.363	0.996	1.10	1.97 J	0.834	< 0.189 J	0.989	< 0.377	1.49	6.00	0.754	< 0.943	4.24	1.34	
	9/20/2006	705	< 481	1.49	< 0.481	0.753	0.948	0.935	0.668	0.823	0.82	< 0.962	< 0.962	1.02	4.35	0.62	< 0.481	1.00	1.04	
	12/13/2006	1,810	< 481	2.10	< 0.962	< 0.962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.190	< 0.0952	3.43	< 0.0952	< 0.524	1.10	< 0.0952		
	3/29/2007	787	< 481	1.01	< 0.190	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	3.43	< 0.0952	< 0.524	1.10	< 0.0952		
	6/27/2007**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	9/18/2007	436	< 472	1.05	< 0.286	< 0.190	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	3.53	< 0.0952	< 1.14	1.92	0.12		
	12/6/2007	676	< 476	1.32	< 0.476	< 0.190	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	4.71	< 0.0952	< 0.476	3.72	< 0.0952		
	3/10/2008	2,270	< 476	2.3	< 0.952	< 0.952	< 0.952 Q10	< 0.952	< 0.952	< 0.952	< 0.952	< 0.952	< 0.952	1.90	< 0.952	7.08	< 0.952	< 1.43	6.64	< 0.952
	6/12/2008	1,150	< 472	1.51	< 0.286	< 0.143	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	4.99	< 0.0952	< 0.429	3.42	< 0.0952		
	9/9/2008	459 Q9	< 481	1.22	< 0.192	0.117	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.192	< 0.0962	4.74	< 0.0962	< 0.481	0.759	< 0.0962		
	12/29/2008	2,780 Q9	< 500	1.29	< 0.238	0.121	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	4.42	< 0.0952	< 0.476	3.04	< 0.0952		
	3/10/2009	1.54	< 0.238	< 0.143	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	5.06	< 0.0952	< 1.33	1.05	< 0.0952		
	6/4/2009	1,100	< 476	1.13	< 0.190	< 0.190	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	3.64	< 0.0952	< 0.524	1.69	< 0.0952		
	9/9/2009	2,840 Q9	< 472	0.991	< 0.143	< 0.333	1.220	1.630	1.610	1.230	1.340	1.340	0.365	1.960	4.23	1.07	< 0.571	1.64	1.66	
	12/15/2009	2,900 Q9	< 472	1.50	< 0.476	0.507	< 0.190	< 0.190	< 0.190	< 0.190	< 0.190	< 0.190	< 0.381	< 0.190	6.46	< 0.190	< 1.24	3.46	< 0.190	
	3/11/2010	781 Q9	< 476	1.21	< 0.381	< 0.381	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	3.31	< 0.0952	< 1.33	< 0.381	< 0.381		
	6/8/2010	1,340 Q9	< 472	1.69	< 0.238	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.190	< 0.0952	4.75	< 0.0952	< 0.571	1.580	< 0.0952		
	9/16/2010**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	12/13/2010**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	6/9/2011	2,270 Q9	< 400	0.528	< 0.377	< 0.0943	< 0.0943	< 0.0943	< 0.0943	< 0.0943	< 0.0943	< 0.189	< 0.0943	0.959	< 0.0943	< 0.236	< 0.0943	< 0.0943	< 0.0943	
BE-1	6																			

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
TERMINAL 4 SLIP 3 UPLAND FACILITY
PORT OF PORTLAND

Sample Point	Sample Date	Analyte Concentration in µg/L (ppb)																		
		Total Petroleum Hydrocarbons		Polynuclear Aromatic Hydrocarbons (PAHs)																
		Diesel-Range	Residual-Range	Acenaphthene	Acenaphthylene	Anthracene	BAA	BAP	BBF	BGP	BKF	Chrysene	DAA	Fluoranthene	Fluorene	ICP	Naphthalene	Phenanthrene	Pyrene	
BEBRA Area - Continued																				
BE-3	6/6/2005	640 Y*	1,000 O*	0.33	0.16	0.43	2.8	4.2	3.7	3.8	2.8	3.6	0.79	4.9	0.22	4.1	0.14	1.6	4.9	
	9/15/2005	159 J*	< 500*	< 0.100	< 0.100	< 0.100	0.142	0.188	0.179	0.161	0.175	0.190	< 0.200	0.239	< 0.100	0.128	< 0.100	0.0966 J	0.292	
	12/7/2005	< 500*	< 1,000*	< 0.200	< 0.200	< 0.200	0.302	0.342	0.371	0.170 J	0.350	0.395	< 0.400	0.612	< 0.200	0.130 J	< 0.200	0.288	0.851	
	3/13/2006	91.2 J	< 250 J	< 0.250	< 0.250	< 0.250	< 0.250	< 0.250	< 0.250	< 0.250	< 0.250	< 0.250	< 0.500	0.349	< 0.250	< 0.250	< 0.250	< 0.250	0.393	
	6/28/2006	< 258	< 515	< 0.515	< 0.515	< 0.515	0.147	0.193	0.182	0.173	0.152	0.170	< 0.190	0.223	< 0.0952	0.149	< 0.0952	0.155	0.203	
	9/20/2006	< 240	< 481	< 0.130	< 0.130	< 0.130	< 0.130	< 0.130	< 0.130	< 0.130	< 0.130	< 0.130	< 0.260	< 0.130	< 0.130	< 0.130	< 0.130	< 0.130	< 0.130	
	12/14/2006	522	< 476	< 0.0952	< 0.0952	< 0.0952	0.147	0.193	0.182	0.173	0.152	0.170	< 0.190	0.223	< 0.0952	0.149	< 0.0952	0.155	0.203	
	3/30/2007	417	< 267	< 0.0308	< 0.0308	< 0.0308	0.0986	0.131	0.122	0.0868	0.117	0.0316	0.129	< 0.0308	0.0988	< 0.0615	0.0730	< 0.173		
	6/27/2007	2,270	310 J	< 0.364	< 0.364	< 0.364	0.391	0.424	0.370	0.342 J	0.338 J	0.458	< 0.727	0.702	< 0.364	0.290 J	0.364	0.338 J	1.05	
	9/18/2007	210	< 1,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/6/2007	371	< 806	0.0460	< 0.0333	0.0680	0.434	0.604	0.655	0.503	0.439	0.540	< 0.167	1.10	< 0.0667	0.407	0.199	0.316	0.538	
	3/12/2008	634 QP, Q11	< 714	< 0.50	< 0.10	0.212	0.269	0.281	0.285	0.186	0.232	< 0.20	0.364	< 0.50	0.22	0.228	0.14	0.253		
	6/12/2008	787 Q9	< 472	< 0.118	< 0.118	< 0.118	0.302	0.358	0.360	0.272	0.291	0.340	< 0.235	0.476	< 0.118	0.242	< 0.118	0.235	0.578	
	9/9/2008	264 Q11	< 833	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	
	12/29/2008	563 Q11	< 746	< 0.111	< 0.111	< 0.111	< 0.111	< 0.111	< 0.111	< 0.111	< 0.111	< 0.111	< 0.111	< 0.222	< 0.111	< 0.111	< 0.111	< 0.111	< 0.111	
	3/9/2009	< 133	< 833	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	< 0.182	
	6/5/2009	< 248	< 495	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	
	9/9/2009	--	--	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	
	12/15/2009	--	--	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	
	3/11/2010	164 Q11	< 1,000	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	< 0.0990	
	6/8/2010	295 Q11	< 495	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	
	9/16/2010	153 B	< 400	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	< 0.133	
	12/13/2010	757 Q12	226 J	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	< 0.0971	
	6/9/2011	190 J	< 400	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.192	< 0.0962	< 0.0962	< 0.0962	< 0.0962	< 0.0962	
BE-4	6/3/2005	590 Y	< 500	1.9	< 0.25	< 0.22	0.012 J	< 0.020	< 0.020	< 0.020	< 0.020	0.034	< 0.020	0.036	3.8	< 0.020	< 0.31	< 0.088	0.084	
	9/15/2005	1,560 J	< 476	< 0.714	< 0.476	< 0.190	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.0952	< 0.19	< 0.0952	0.844	< 0.0952	< 0.476	< 0.190	< 0.0952	
	12/7/2005 **	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/13/2006 **	--</																		



Base map prepared from USGS 7.5-minute quadrangles as provided by TerraServer.

0 2,000 4,000

Scale in Feet



Facility Location Map

Semi-Annual Report – First Semi-Annual 2011
Terminal 4 Slip 3 Upland Facility
Portland, Oregon

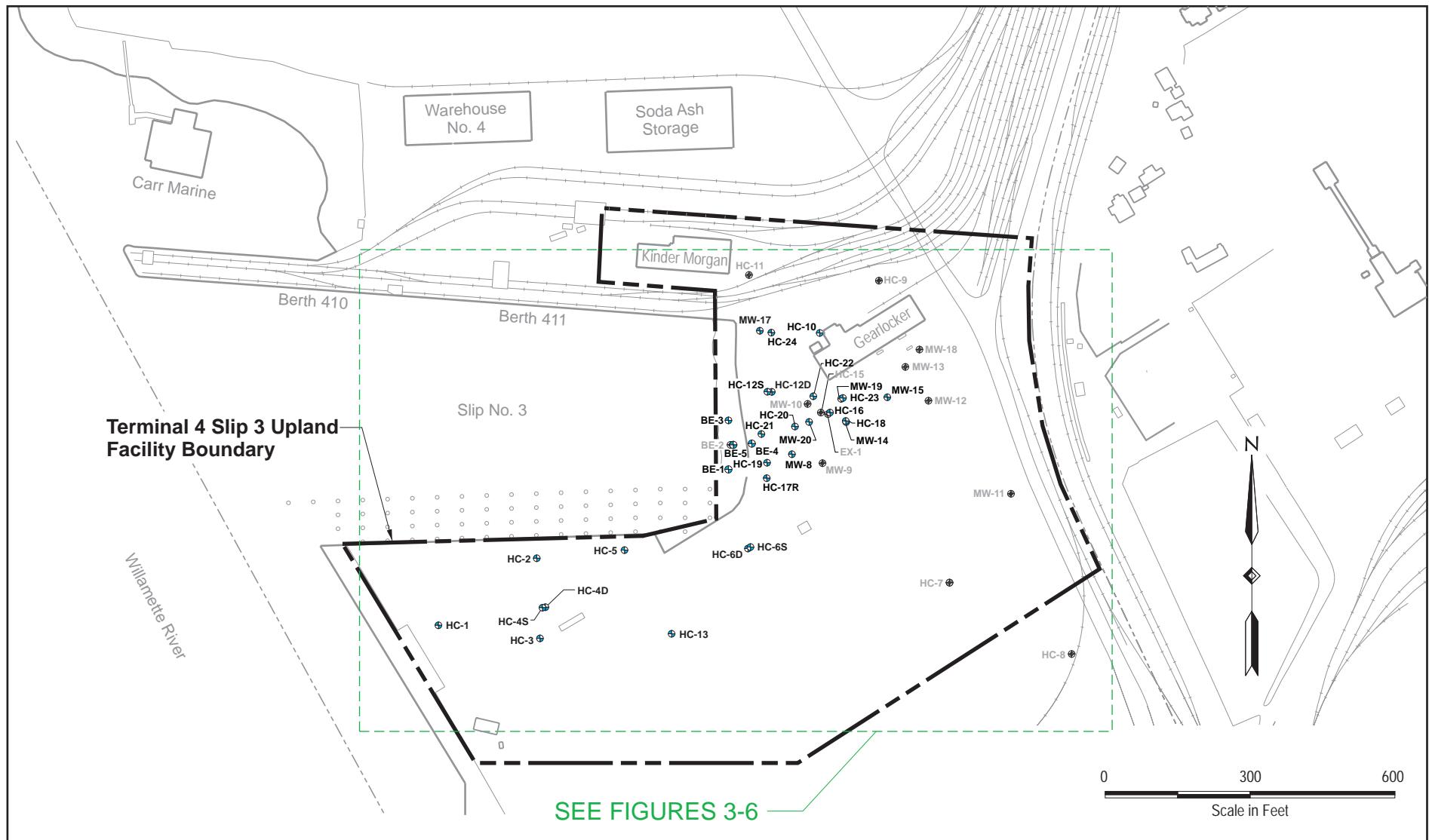
 Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number 1007-03

July 2011

Figure

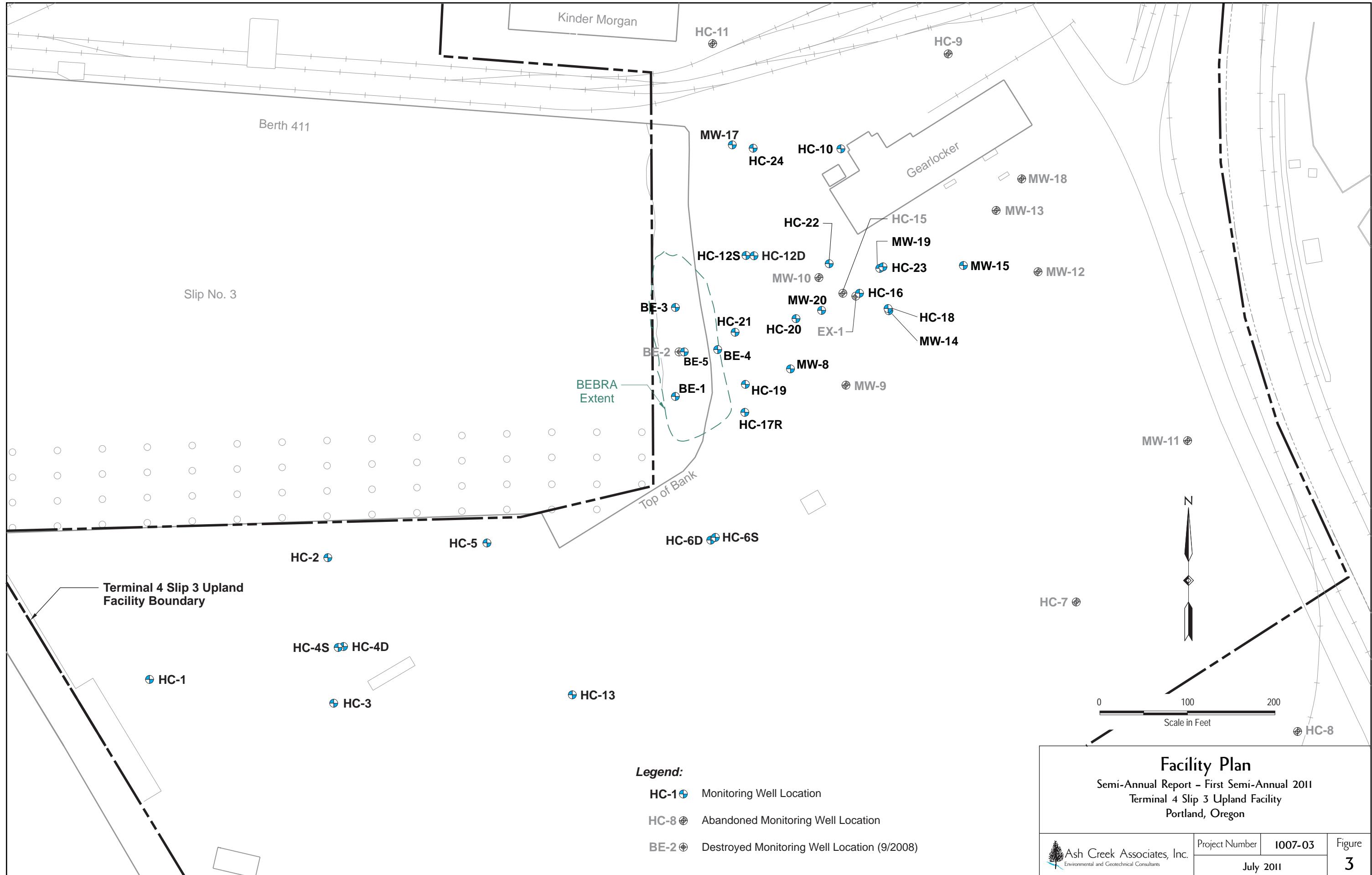
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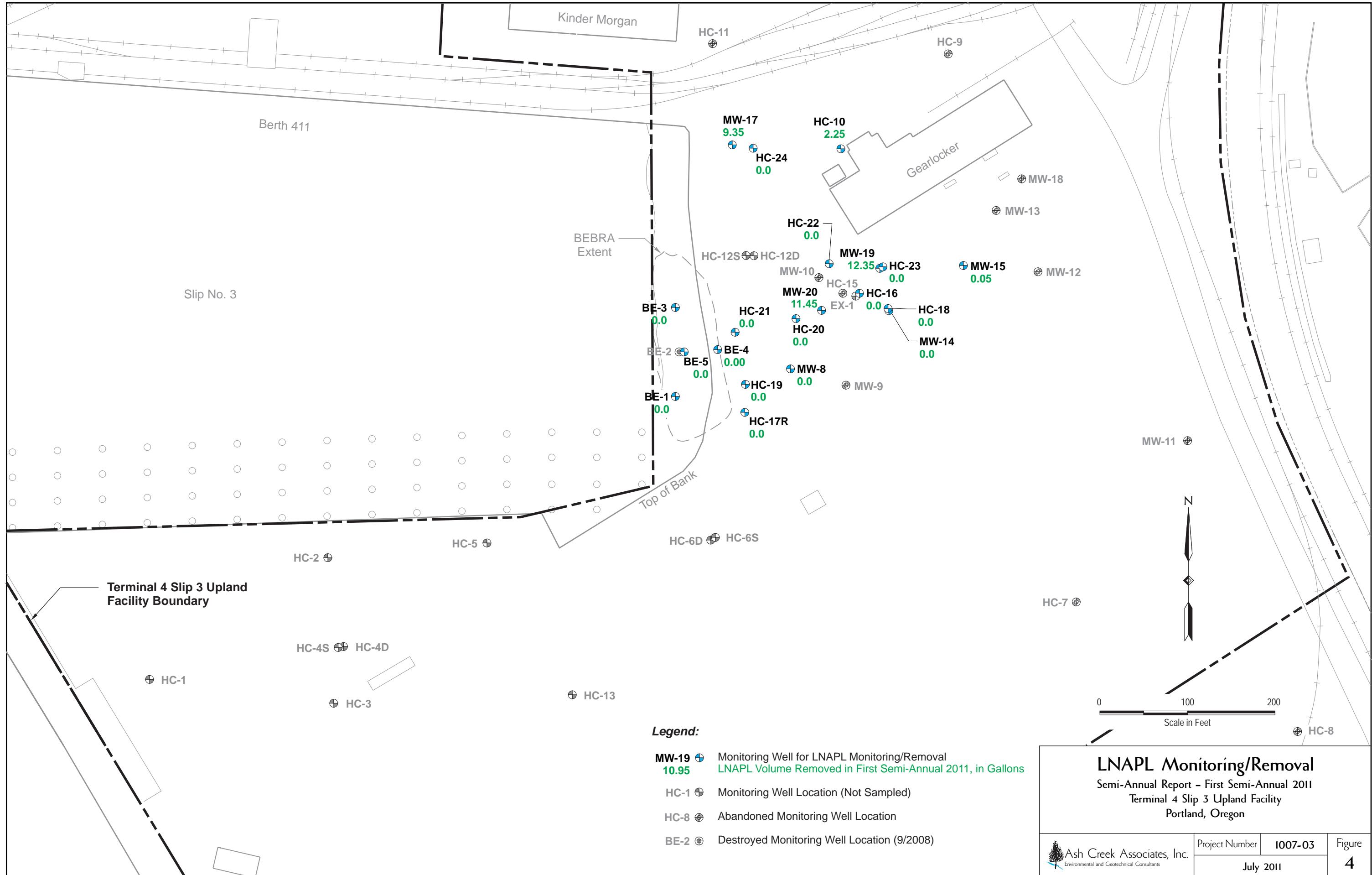


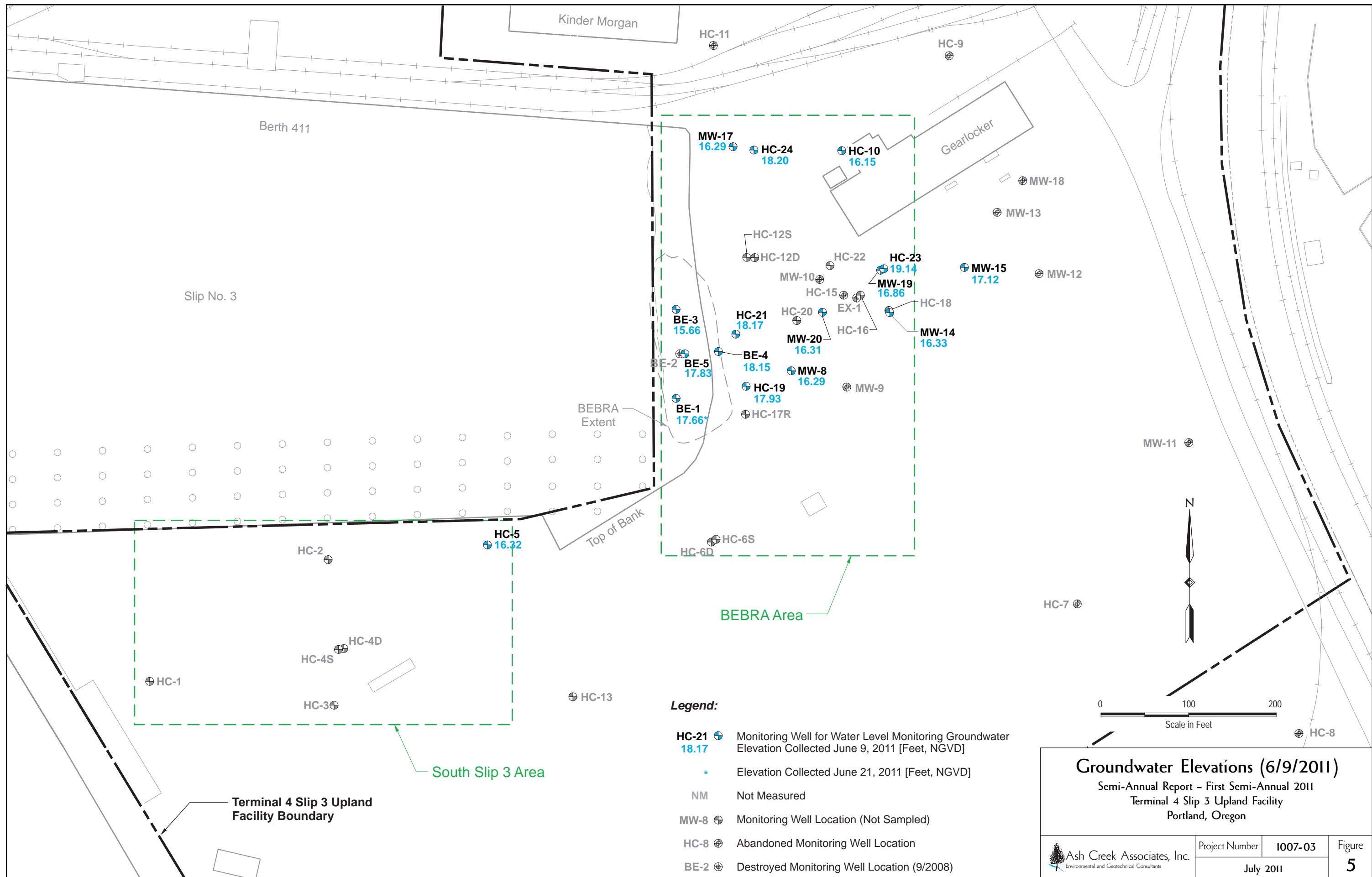
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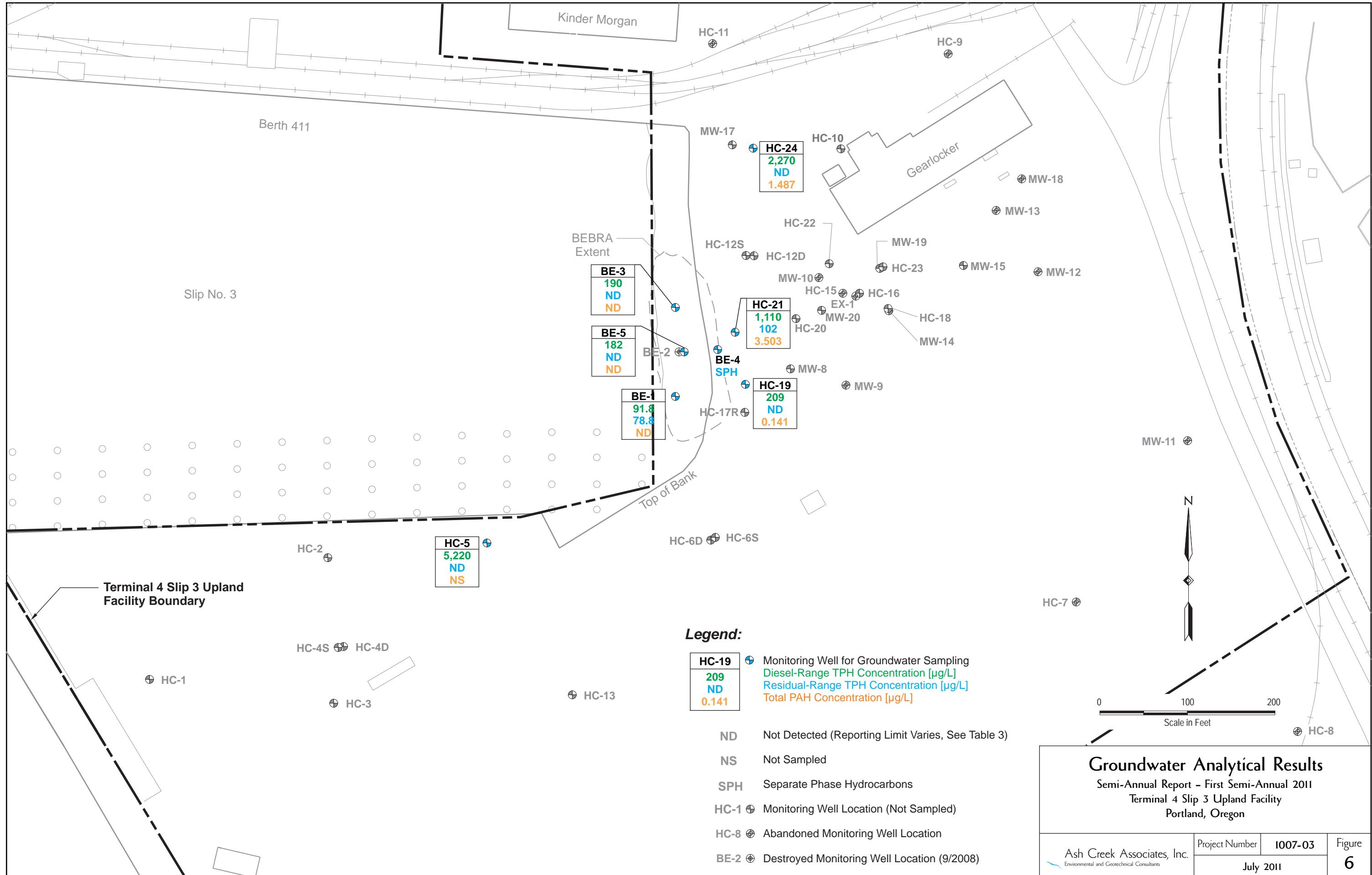
- HC-1 • Monitoring Well Location
- HC-8 • Abandoned Monitoring Well Location
- BE-2 • Destroyed Monitoring Well Location (9/2008)

Facility Vicinity Plan
 Semi-Annual Report – First Semi-Annual 2011
 Terminal 4 Slip 3 Upland Facility
 Portland, Oregon









Appendix A

Field and QA/QC Procedures

Appendix A – Field and QA/QC Procedures

Introduction

The Port of Portland (Port) is required to conduct groundwater and light non-aqueous phase liquid (LNAPL) monitoring in association with the remedial action at the Terminal 4 Slip 3 Upland Facility (the Facility), as outlined in the *Record of Decision* (ROD; Department of Environmental Quality [DEQ], 2003), *Explanation of Significant Difference* (DEQ, 2004), and *Consent Judgment* (Circuit Court of Oregon, 2004). The specific implementation of the remedial action is described in the *Remedial Design/Remedial Action Work Plan* (RD/RA Work Plan; Hart Crowser, 2004), as amended (Port, 2004). The monitoring program is described in the *LNAPL Removal, Groundwater Monitoring, and Construction Plan* (Monitoring Plan; BBL/Ash Creek/Newfields, 2005) and the *Site Closure Evaluation and Recommendation – Groundwater* (Ash Creek, 2009). This appendix describes the field sampling procedures and quality assurance/quality control (QA/QC) procedures that were used during the quarterly monitoring and LNAPL removal event.

Field and Sampling Procedures

The scope of work (SOW) includes measuring water elevations, performing groundwater monitoring, and removing LNAPL from impacted monitoring wells. The field and sampling procedures include the following:

- Measurement of water levels in monitoring wells;
- Collection of groundwater samples from monitoring wells;
- Removal of LNAPL from monitoring wells;
- Sample management (e.g., containers, storage, and shipment);
- Decontamination procedures; and
- Handling of investigation-derived waste (IDW).

Measurement of Water Levels in Monitoring Wells

Water levels in the wells were measured and recorded for the purpose of determining the groundwater gradient and elevations. The wells were first opened and the water levels allowed to equilibrate before the measurements were taken. Measurements were made to the nearest 0.01 foot using an electronic water probe.

Collection of Groundwater Samples from Monitoring Wells

Groundwater monitoring consisted of collecting groundwater samples and measuring groundwater field parameters. Field sampling sheets are included in this appendix.



Appendix A – Field and QA/QC Procedures

After groundwater levels were measured, the selected wells were purged using a peristaltic pump. Wells with measurable thicknesses of LNAPL were not sampled. Purging of the sampled wells was considered complete when the water quality parameters (pH, temperature, and specific conductance) stabilized within 10 percent of the previous readings. (BEBRA wells are not purged due to limited water volume.) During purging, the purge water characteristics (e.g., color, turbidity, sheens) and purge volumes were documented. After purging was completed, the wells were sampled. Groundwater samples were collected using a low-flow peristaltic pump and disposable tubing (volatile organics were not included in the sampling program). Purge water was placed in labeled drums pending disposal.

Equipment Cleaning. Clean tubing was used for the peristaltic pump for each collected groundwater sample to prevent cross-contamination. Other groundwater sampling equipment (such as the water level probe) was cleaned prior to use in the first well and after each subsequent well.

Duplicate Sample. For QA/QC purposes, a duplicate sample was collected from one well (HC-19) for chemical analysis. Sample containers for the primary and duplicate samples were alternately filled with water from the well.

LNAPL Monitoring and Removal from Monitoring Wells

Monitoring and removal of LNAPL occurs in wells MW-17, MW-19, MW-20, and BE-4 on a regular schedule as prescribed in the RD/RA Work Plan (Hart Crowser, 2004). During the quarterly groundwater monitoring event, water and product levels were measured in the wells included in the LNAPL program. Each well is monitored for the presence of LNAPL with a product interface probe. Depths to both water and product (if present) were measured and recorded. LNAPL is removed from each monitoring well that is observed to have more than 0.1 foot of accumulated LNAPL. If a removable quantity of LNAPL (>0.1 foot) is observed in any well during the quarterly monitoring event, then it is added to the list of regularly monitored wells for the preceding quarter. The LNAPL was removed with passive skimmers in wells MW-19 and MW-20, and with a peristaltic pump in the remaining wells.

Passive Skimmer Product Removal. After June 9, 2006, passive product skimmers (Keck 4-4L passive recovery canisters) have been used to collect and remove product from wells MW-19 and MW-20. The passive skimmers are maintained so that the water/LNAPL interface is within the 2-foot intake screen of the skimmer. The skimmers are manually removed from the well, drained (through the drain valve), and reinstalled in the well. If residual LNAPL remains in the well after the removal of the skimmer (i.e., the volume of LNAPL in the well was larger than the storage capacity of the skimmer), then the remaining LNAPL is removed as described below. The depth to water is measured in the well and the length of the cable support for each skimmer is adjusted as necessary to reinstall in the wells.



Appendix A – Field and QA/QC Procedures

Manual Product Removal. For wells with more than 0.1 foot of measured LNAPL, the product removal process generally involves the suction hose of the pump being lowered into the well together with the interface probe (attached to the hose so that the interface point of the probe coincides with the opening of the hose) to allow the operator to judge the depth of the suction hose relative to the oil/water interface and manipulate the depth of the hose so that the floating product is preferentially extracted.

Sample Management

Pre-cleaned, certified sample containers were provided by the contract analytical laboratory (TestAmerica Laboratories of Beaverton, Oregon). A sample label was affixed to each sample container and was marked with a unique sample number, date of collection, project number, and sampler's initials. Chain of custody (COC) was maintained and documented at all times. Sample custody seals and packing materials for filled sample containers were provided by the analytical laboratory. The filled, labeled, sealed containers were placed in a cooler on ice and carefully packed to eliminate the possibility of container breakage.

Samples were packaged by the field personnel and transported as low-concentration environmental samples. Shipments were accompanied by the COC form identifying the contents. The original form accompanied the shipment; copies were retained by the sampler for the sampling office records.

Decontamination Procedures

Personnel Decontamination. The Health and Safety Plan (HASP) for the Facility identifies the appropriate level of protection for the type of work and expected field conditions involved in this project. In general, clothing and other protective equipment can be removed from the investigation area. Field personnel should thoroughly wash their hands and faces at the end of each day and before taking any work breaks.

Sampling Equipment Decontamination. To prevent cross-contamination between sampling events, clean, dedicated sampling equipment (e.g., groundwater sampling tubing) was used for each sampling event and was discarded after use. Cleaning of non-disposable items consisted of washing in a detergent (Alconox®) solution, rinsing with tap water, followed by a deionized (DI) water rinse.

Handling of Investigation-Derived Waste

IDW was generated from LNAPL removal and well sampling activities. The IDW generated included LNAPL, purge water, decontamination water, and discarded personal protective supplies. Used personal protective equipment (PPE) and trash were collected and disposed of in a waste receptacle.



Appendix A – Field and QA/QC Procedures

References

- Ash Creek, 2009. Site Closure Evaluation and Recommendation – Groundwater, Terminal 4 Slip 3 Upland Facility. May 14, 2009.
- BBL/Ash Creek/Newfields, 2005. LNAPL Removal, Groundwater Monitoring, and Construction Plan. June 2005.
- Circuit Court of Oregon, Multnomah County, 2004. Consent Judgment – State of Oregon v. Port of Portland. October 7, 2004.
- DEQ, 2003. Record of Decision, Port of Portland Terminal 4 Slip 3 Upland. April 21, 2003.
- DEQ, 2004. Explanation of Significant Difference, Port of Portland Terminal 4 Slip 3 Upland Facility. September 1, 2004.
- Hart Crowser, 2004. Remedial Design/Remedial Action Work Plan, Terminal 4, Slip 3 Upland Facility. September 27, 2004.
- Port of Portland, 2004. Letter to DEQ: Terminal 4 Slip 3 Upland Facility, Response to Comments/Work Plan Addendum, Remedial Design/Remedial Action Work Plan. October 7, 2004.



WELL MONITORING DATA SHEET

 Ash Creek Associates, Inc. Environmental and Geotechnical Consultants			Well I.D.	BE-5	Job Number:	1007-03					
			Client:	Port of Portland	Date:	6/9/11					
			Project:	T453 ISA2011 GWM	Sampler:	IM/CC					
			Weather:	Clear	Time In/Out:						
WELL DATA											
Well Depth:		Well Diameter:	1-inch		Water Height						
Depth to Water:	3.29	Screened Interval:			x Multiplier						
Water Column Length:		Depth to Free Product:			x Casing Volumes						
Purge Volume:	2.78 L	Free Product Thickness:			= Purge Volume						
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters							
PURGING DATA											
Purge Method:		PERISTALTIC		Pump Intake Depth:	+5 feet		Comments				
Sampling Method:		LOW-FLOW PERI		Tubing Type:	LDPE						
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.2	+/-0.5°C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	← Stabilization Criteria
1100	0.5	0.5		0.25	7.84	14.04	784	8.00	151.1	-	SC
1103	0.57	1.07		0.19	7.67	13.82	771	1.43	147.8	-	SC
1106	0.57	1.64			7.52	13.83	579	0.88	121.0	-	SC
1109	0.57	2.21			7.53	13.81	579	0.62	122.6	-	SC
1112	0.57	2.78			7.50	13.78	566	0.52	124.7	-	SC
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear											
SAMPLING DATA											
Sample ID:	BE-5		Sampling Flow Rate		Analytical Laboratory:	TA					
Sample Time:	1115		Final Depth to Water:		Did Well Dewater?	NO					
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID					
1x125mL Amber	HCl	D _x	yes	Cnø	—	—					
1x1L Amber	—	PAHs	yes	(no)	—	—					
			yes	no							
			yes	no							
			yes	no							
			yes	no							
COMMENTS											

WELL MONITORING DATA SHEET

 <p>Ash Creek Associates, Inc. Environmental and Geotechnical Consultants</p>	Well I.D.	BE-3	Job Number:	1007-03							
	Client:	Port of Portland	Date:	6/9/11							
	Project:	T453 ISA 2011	Sampler:	IM/CC							
	Weather:	Clear	Time In/Out:								
WELL DATA											
Well Depth:	1.89	Well Diameter:	1-inch	Water Height							
Depth to Water:		Screened Interval:		x Multiplier							
Water Column Length:		Depth to Free Product:		x Casing Volumes							
Purge Volume:		Free Product Thickness:		= Purge Volume							
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters							
PURGING DATA											
Purge Method:		<i>Peristaltic Pump</i>			Pump Intake Depth:		<i>+5 feet</i>		Comments		
Sampling Method:		<i>Low Flow</i>			Tubing Type:		<i>LDPE</i>				
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (μS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.2	+/-0.5°C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	← Stabilization Criteria
1034					7.39	14.43	963	4.04	139.3	-	C
1037					7.39	14.82	967	3.25	152.8	-	?
* 1040					7.34	14.66	974	0.05	144.2	--	C
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear											
SAMPLING DATA											
Sample ID:	BE-3		Sampling Flow Rate					Analytical Laboratory:		TA	
Sample Time:	1130		Final Depth to Water:		<i>7.70 (rsng)</i>			Did Well Dewater?		YES	
# Containers/Type	Preservative		Analysis/Method		Field Filtered		Filter Size		MS/MSD	Duplicate ID	
1x125 ml Amber	HCl		Dx		yes	no	—				
1x1 L Amber	—		PAMs		yes	no	—				
					yes	no					
					yes	no					
					yes	no					
					yes	no					
COMMENTS											
<i>* Dewatered, lowered tubing</i>											

WELL MONITORING DATA SHEET

 Ash Creek Associates, Inc. Environmental and Geotechnical Consultants	Well I.D.	HC-24	Job Number:	1007-03							
	Client:	Port of Portland	Date:	6/9/11							
	Project:	T-153 TSA ZONI GWM	Sampler:	IM/CC							
	Weather:	Clear	Time In/Out:								
	WELL DATA										
Well Depth:		Well Diameter:	2"	Water Height							
Depth to Water:	11.84	Screened Interval:		x Multiplier							
Water Column Length:		Depth to Free Product:	—	x Casing Volumes							
Purge Volume:	2.54 L	Free Product Thickness:		= Purge Volume							
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters							
PURGING DATA											
Purge Method:		Purge static Pump			Pump Intake Depth:	4.5' off Bottom			Comments		
Sampling Method:		Flow-Flow			Tubing Type:	LINE					
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.2	+/-0.5°C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<- Stabilization Criteria
14:52	0.5	0.5	11.96	0.17	7.51	14.51	414	1.61	238.6		
14:55	0.51	1.01	11.98	—	7.48	14.27	408	1.70	218.9		
14:58	0.51	1.52	12.00	—	7.51	13.99	405	0.90	209.7		
15:01	0.51	2.03	12.00	—	7.45	14.03	408	0.65	206.3		
15:04	0.51	2.54	12.02	↓	7.38	14.02	409	0.54	203.1		
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear											
SAMPLING DATA											
Sample ID:	HC-24	Sampling Flow Rate	0.17	Analytical Laboratory:	TA						
Sample Time:	15:10	Final Depth to Water:	11.92	Did Well Dewater?	NO						
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID					
1x 125 mL	HCL	Dx	yes <input checked="" type="radio"/> no <input type="radio"/>	—	—	HC-24DUP					
1x 1 L	—	PAHs	yes <input checked="" type="radio"/> no <input type="radio"/>	—	—	HC-24DUP					
			yes <input type="radio"/> no								
			yes <input type="radio"/> no								
			yes <input type="radio"/> no								
			yes <input type="radio"/> no								
COMMENTS											

WELL MONITORING DATA SHEET

 <p>Ash Creek Associates, Inc. Environmental and Geotechnical Consultants</p>	Well I.D.	HC-21	Job Number:	1007-03							
	Client:	POP	Date:	6/19/11							
	Project:	T4S3 GWM	Sampler:	IM/KC							
	Weather:	Clear	Time In/Out:								
	WELL DATA										
	Well Depth:		Well Diameter:	2-inch	Water Height						
	Depth to Water:	13.78	Screened Interval:		x Multiplier						
	Water Column Length:		Depth to Free Product:		x Casing Volumes						
	Purge Volume:	2.54 L	Free Product Thickness:		= Purge Volume						
	Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters						
PURGING DATA											
Purge Method:	PERISTALTIC PUMP		Pump Intake Depth:	+5 feet	Comments						
Sampling Method:	LOW-FLOW		Tubing Type:	LDPE							
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.2	+/-0.5°C	+/-5%	+/-0.5 ppm	+/-20mV	+/-10%	<- Stabilization Criteria
15:38	0.5	0.5	13.83	0.19	6.58	17.22	389	3.16	130.3		AC
15:41	0.51	2.51	13.83	0.17	6.49	17.24	389	1.16	131.1		AC
15:44	0.51	2.51	13.82		6.38	17.27	382	0.90	136.2		AC
15:47	0.51	2.03	13.82		6.29	17.16	354	0.82	139.3		AC
15:50	0.51	2.54	13.83	↓	6.22	16.95	343	1.06	139.7		AC
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear											
SAMPLING DATA											
Sample ID:	HC-21	Sampling Flow Rate	0.17	Analytical Laboratory:	TA						
Sample Time:	15:55	Final Depth to Water:	13.81	Did Well Dewater?	ND						
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID					
1x 125mL	HCL	Dx	yes <input checked="" type="radio"/> no <input type="radio"/>								
1x 1 L		PAHs	yes <input checked="" type="radio"/> no <input type="radio"/>								
			yes no								
			yes no								
			yes no								
			yes no								
			yes no								
COMMENTS											

WELL MONITORING DATA SHEET

 Ash Creek Associates, Inc. Environmental and Geotechnical Consultants				Well I.D.	HC-19	Job Number:	1007-03				
				Client:	Port of Portland	Date:	6/10/11				
				Project:	T453 1st 2011 GWM	Sampler:	TM				
				Weather:	overcast (50%)	Time In/Out:	825 /				
WELL DATA											
Well Depth:			Well Diameter:	2-inch		Water Height					
Depth to Water:	15.16		Screened Interval:			x Multiplier					
Water Column Length:			Depth to Free Product:			x Casing Volumes					
Purge Volume:	3.74		Free Product Thickness:			= Purge Volume					
Water Height Multipliers (gal)		1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters						
PURGING DATA											
Purge Method:	PERISTALTIC Pump		Pump Intake Depth:	+5 -feet			Comments				
Sampling Method:	LOW-FLOW		Tubing Type:	LDPE							
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.2	+/-0.5°C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<- Stabilization Criteria
853	0.5	0.5	15.31	0.22	4.46	13.41	209	1.63	160.8	-	C
856	0.54	1.04	15.33	0.18	4.53	13.42	203	1.23	161.7	-	C
859	0.54	1.58	15.34		4.63	13.38	193	1.52	151.9	-	C
902	0.54	2.12	15.34		4.71	13.35	188	1.69	145.8	-	C
905	0.54	2.66	15.35		4.80	13.37	185	0.96	140.4	-	C
908	0.54	3.20	15.35		4.82	13.34	182	0.93	136.9	-	C
911	0.54	3.74	15.36	↓	4.83	13.34	179	0.93	134.4	-	C
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear											
SAMPLING DATA											
Sample ID:	HC-19		Sampling Flow Rate	0.18		Analytical Laboratory:	TA				
Sample Time:	920		Final Depth to Water:	+3.25 16.26		Did Well Dewater?	NO				
# Containers/Type	Preservative		Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID			
1x125 ml Amber	HCl		Dx	yes	no	-	-	HC-19 DUP			
1x1L Amber	-		PATs	yes	no	-	-	" "			
				yes	no						
				yes	no						
				yes	no						
				yes	no						
COMMENTS											

WELL MONITORING DATA SHEET

 Ash Creek Associates, Inc. Environmental and Geotechnical Consultants				Well I.D.	HC-5	Job Number:	1007-03				
				Client:	Port of Portland	Date:	6/10/11				
				Project:	T4S3 ISAZON GUM	Sampler:	IM				
				Weather:	overcast	Time In/Out:	940				
WELL DATA											
Well Depth:		Well Diameter:	2-inch	Water Height:							
Depth to Water:	15.86	Screened Interval:		x Multiplier							
Water Column Length:		Depth to Free Product:		x Casing Volumes							
Purge Volume:	2.90	Free Product Thickness:		= Purge Volume							
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters							
PURGING DATA											
Purge Method:		PERISTALTIC Pump		Pump Intake Depth:	+5-feet		Comments				
Sampling Method:		LOW-FLOW		Tubing Type:	HDPE						
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.2	+/-0.5°C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<- Stabilization Criteria
952	0.5	0.5	15.88	0.2	5.04	15.55	624	4.18	126.2	-	AC
955	0.6	1.10	15.89		5.62	15.51	626	1.08	119.7	-	AC
958	0.6	1.70	15.90		5.76	15.43	628	0.82	117.8	-	C
1001	0.6	2.30	15.90		5.86	15.37	631	0.65	117.7	-	C
1004	0.6	2.90	15.89	↓	5.90	15.38	631	0.61	117.7	-	C
Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear											
SAMPLING DATA											
Sample ID:	HC-5	Sampling Flow Rate	0.2	Analytical Laboratory:	TA						
Sample Time:	1010	Final Depth to Water:	15.86	Did Well Dewater?	NO						
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID					
			yes no								
			yes no								
			yes no								
			yes no								
			yes no								
COMMENTS											
Broken Sheen on Sample Surface											

Appendix B

Data QA/QC Review and Analytical Laboratory Report

Appendix B – Data QA/QC Review

Introduction

This appendix documents the results of a quality assurance (QA) review of the analytical data for groundwater samples collected during the first semi-annual 2011 groundwater sampling event. TestAmerica Laboratories of Beaverton, Oregon performed the analyses. A copy of the analytical laboratory report summary is included in this appendix.

The QA review included examination and validation of the laboratory summary report, including:

- Analytical methods;
- Detection limits;
- Sample holding times;
- Custody records;
- Surrogates, spikes, and blanks; and
- Duplicates.

The QA review did not include a review of raw data.

Analytical Methods and Detection Limits

Chemical analyses on the collected water samples consisted of the following:

- Diesel- and heavy oil (residual)-range total petroleum hydrocarbons (TPH) by method NWTPH-Dx with silica gel cleanup; and
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270M-SIM.

Quality Assurance Objectives and Review

The general QA objectives for this project were to develop and implement procedures for obtaining and evaluating data of a quality that is suitable for comparison to regulatory compliance criteria. To collect such information, analytical data must have an appropriate degree of accuracy and reproducibility, samples collected must be representative of actual field conditions, and samples must be collected and analyzed using unbroken chain-of-custody (COC) procedures.

Reporting limits and analytical results were compared to action levels for each parameter in the media of concern. Precision, accuracy, representativeness, completeness, and comparability parameters used to indicate data quality are defined below.



Appendix B – Data QA/QC Review

Reporting Limits. Detection limits are set by the laboratory and are based on instrumentation abilities, sample matrix, and suggested detection limits set by the U.S. Environmental Protection Agency (EPA) or the Oregon Department of Environmental Quality (DEQ). The reporting limits for Acenaphthylene and Naphthalene in sample HC-24 were raised due to matrix interferences. Detection limits were generally consistent with industry standards and the method reporting limits (MRLs) were below the relevant *Record of Decision* (ROD) cleanup standards except for benzo(a)anthracene (BAA) and benzo(a)pyrene (BAP; consistent with previous monitoring events).

Reporting limits for individual samples varied based on the magnitude of the chemical impact. Reporting limits were reviewed and are generally acceptable for this project.

Holding Times. The samples were analyzed within the holding times specified for the requested analyses.

Precision. Precision measures the reproducibility of data under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements compared to their average values. Analytical precision is measured through a batch laboratory control sample and duplicate (LCS and LCSD, respectively). Analytical precision is quantitatively expressed as the relative percent difference (RPD) between the LCS and LCSD. The LCS/LCSD results were within acceptable ranges.

Accuracy. Accuracy is the measure of error between the reported test results and the true sample concentration. “Perfect” accuracy is 100 percent recovery. True sample concentration is never known due to analytical limitations, variability, and error. Consequently, accuracy is inferred from the recovery data from spiked samples. The laboratory performed sufficient spike samples of a similar matrix (i.e., water) to allow the computation of the accuracy. The accuracy measurements were carried out in accordance with SW-846 Method requirements. Surrogate spike results were within acceptable ranges.

A field duplicate was collected by splitting the field sample and submitting both samples for chemical analysis. A duplicate sample was collected from well HC-19. The field duplicate results are compared to the initial result to assess variability in the sample matrix and bias due to sampling procedures (expressed by the RPD between the initial and field duplicate samples). Data quality can be evaluated based on RPDs when the sample concentration is at least five times the reporting limit. Field duplicate RPDs up to 30 percent are considered to be acceptable. The detected concentrations had an RPD of less than 30 percent.

Representativeness. Representativeness is a measure of how closely the results reflect the actual concentration of the chemical parameters in the medium sampled. Sampling procedures, as well as sample-handling protocols for storage, preservation, and transportation, are designed to preserve the

Appendix B – Data QA/QC Review

representativeness of the samples collected. Laboratory method blanks are run in accordance with established laboratory protocols.

The samples for this project were received by the laboratory in good condition and in the proper, laboratory-supplied containers. No target compounds were detected in the laboratory method blanks.

Completeness. Completeness is defined as the percentage of measurements made which are judged to be valid measurements. The completeness of the data is the number of acceptable data points divided by the total number of data points, multiplied by 100. The completeness goal is essentially that a sufficient amount of valid data can be generated to allow for the evaluation of the site investigation.

No data collected during the site investigation were rejected for this project; therefore, the completeness for this phase of the project is 100 percent.

Comparability. Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. Based on this QA review, the quality of the data collected during this site investigation is similar to that of previously collected data and is, therefore, comparable.

Conclusion. In conclusion, the overall QA objectives have been met, and the data (as qualified) are of adequate quality for use in this project. The laboratory also noted that the TPH analyses did not have a distinct diesel pattern but most closely resembled heavily weathered diesel.



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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Portland

9405 SW Nimbus Ave.

Beaverton, OR 97008

Tel: (503) 906-9200

TestAmerica Job ID: PUF0442

Client Project/Site: 1007-03

Client Project Description: T4S3 - GW Monitoring - 2011

For:

Ash Creek Associates, Inc.

3015 SW First Avenue

Portland, OR 97201

Attn: Michael Pickering

Darrell W. Auvil

Authorized for release by:

06/24/2011 02:52:46 PM

Darrell Auvil

Project Manager

darrell.auvil@testamericainc.com

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Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Sample Summary

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
PUF0442-01	BE-3	Water	06/09/11 11:30	06/10/11 16:10
PUF0442-02	BE-5	Water	06/09/11 11:15	06/10/11 16:10
PUF0442-03	HC-21	Water	06/09/11 15:55	06/10/11 16:10
PUF0442-04	HC-24	Water	06/09/11 15:10	06/10/11 16:10
PUF0442-05	HC-5	Water	06/10/11 10:10	06/10/11 16:10
PUF0442-06	HC-19	Water	06/10/11 09:20	06/10/11 16:10
PUF0442-07	HC-19 Dup	Water	06/10/11 09:20	06/10/11 16:10

Definitions/Glossary

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Qualifiers

Semivolatiles

Qualifier	Qualifier Description
RL1	Reporting limit raised due to sample matrix effects.

Fuels

Qualifier	Qualifier Description
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
Q11	Detected hydrocarbons in the diesel range do not have a distinct diesel pattern and may be due to heavily weathered diesel.
Q9	Hydrocarbon pattern most closely resembles heavily weathered diesel.

Glossary

Abbreviation **These commonly used abbreviations may or may not be present in this report.**

☒	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

Client Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Client Sample ID: BE-3

Date Collected: 06/09/11 11:30

Date Received: 06/10/11 16:10

Lab Sample ID: PUF0442-01

Matrix: Water

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Acenaphthylene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Anthracene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Benzo (a) anthracene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Benzo (a) pyrene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Benzo (b) fluoranthene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Benzo (ghi) perylene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Benzo (k) fluoranthene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Chrysene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Dibenzo (a,h) anthracene	ND		0.192		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Fluoranthene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Fluorene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Naphthalene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Phenanthrene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Pyrene	ND		0.0962		ug/l		06/15/11 15:05	06/17/11 15:55	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	72.9		25 - 125				06/15/11 15:05	06/17/11 15:55	1.00
Pyrene-d10	71.9		23 - 150				06/15/11 15:05	06/17/11 15:55	1.00
Benzo (a) pyrene-d12	49.3		10 - 125				06/15/11 15:05	06/17/11 15:55	1.00

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	0.190	J	0.400	0.0320	mg/l		06/15/11 13:52	06/16/11 18:51	1.00
Residual Range/Heavy Oil Organics	ND		0.400	0.0560	mg/l		06/15/11 13:52	06/16/11 18:51	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	82.0		50 - 150				06/15/11 13:52	06/16/11 18:51	1.00

Client Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Client Sample ID: BE-5

Date Collected: 06/09/11 11:15
Date Received: 06/10/11 16:10

Lab Sample ID: PUF0442-02

Matrix: Water

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Acenaphthylene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Anthracene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Benzo (a) anthracene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Benzo (a) pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Benzo (b) fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Benzo (ghi) perylene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Benzo (k) fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Chrysene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Dibenzo (a,h) anthracene	ND		0.189	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Fluorene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Naphthalene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Phenanthrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:26	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	86.9		25 - 125				06/15/11 15:05	06/17/11 16:26	1.00
Pyrene-d10	84.3		23 - 150				06/15/11 15:05	06/17/11 16:26	1.00
Benzo (a) pyrene-d12	56.8		10 - 125				06/15/11 15:05	06/17/11 16:26	1.00

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	0.182	J	0.400	0.0320	mg/l		06/15/11 13:52	06/16/11 19:10	1.00
Residual Range/Heavy Oil Organics	ND		0.400	0.0560	mg/l		06/15/11 13:52	06/16/11 19:10	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	80.3		50 - 150				06/15/11 13:52	06/16/11 19:10	1.00

Client Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Client Sample ID: HC-21

Lab Sample ID: PUF0442-03

Date Collected: 06/09/11 15:55

Matrix: Water

Date Received: 06/10/11 16:10

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Acenaphthylene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Anthracene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Benzo (a) anthracene	0.314		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Benzo (a) pyrene	0.396		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Benzo (b) fluoranthene	0.343		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Benzo (ghi) perylene	0.341		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Benzo (k) fluoranthene	0.331		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Chrysene	0.340		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Dibeno (a,h) anthracene	ND		0.189	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Fluoranthene	0.409		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Fluorene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Indeno (1,2,3-cd) pyrene	0.306		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Naphthalene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Phenanthrene	0.217		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Pyrene	0.506		0.0943	ug/l			06/15/11 15:05	06/17/11 16:58	1.00
Surrogate	% Recovery	Qualifier		Limits			Prepared	Analyzed	Dil Fac
Fluorene-d10	63.8			25 - 125			06/15/11 15:05	06/17/11 16:58	1.00
Pyrene-d10	74.0			23 - 150			06/15/11 15:05	06/17/11 16:58	1.00
Benzo (a) pyrene-d12	45.9			10 - 125			06/15/11 15:05	06/17/11 16:58	1.00

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	1.11	Q11	0.400	0.0320	mg/l		06/15/11 13:52	06/16/11 19:28	1.00
Residual Range/Heavy Oil Organics	0.102	J	0.400	0.0560	mg/l		06/15/11 13:52	06/16/11 19:28	1.00
Surrogate	% Recovery	Qualifier		Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	75.1			50 - 150			06/15/11 13:52	06/16/11 19:28	1.00

Client Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Client Sample ID: HC-24

Lab Sample ID: PUF0442-04

Date Collected: 06/09/11 15:10

Matrix: Water

Date Received: 06/10/11 16:10

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.528		0.377		ug/l		06/15/11 15:05	06/20/11 12:24	4.00
Acenaphthylene	ND	RL1	0.377		ug/l		06/15/11 15:05	06/20/11 12:24	4.00
Anthracene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Benzo (a) anthracene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Benzo (a) pyrene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Benzo (b) fluoranthene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Benzo (ghi) perylene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Benzo (k) fluoranthene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Chrysene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Dibenzo (a,h) anthracene	ND		0.189		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Fluoranthene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Fluorene	0.959		0.377		ug/l		06/15/11 15:05	06/20/11 12:24	4.00
Indeno (1,2,3-cd) pyrene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Naphthalene	ND	RL1	0.236		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Phenanthrene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Pyrene	ND		0.0943		ug/l		06/15/11 15:05	06/17/11 17:29	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	72.8		25 - 125				06/15/11 15:05	06/20/11 12:24	4.00
Pyrene-d10	83.9		23 - 150				06/15/11 15:05	06/17/11 17:29	1.00
Benzo (a) pyrene-d12	66.5		10 - 125				06/15/11 15:05	06/17/11 17:29	1.00

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	2.27	Q9	0.400	0.0320	mg/l		06/15/11 13:52	06/16/11 20:24	1.00
Residual Range/Heavy Oil Organics	ND		0.400	0.0560	mg/l		06/15/11 13:52	06/16/11 20:24	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	87.6		50 - 150				06/15/11 13:52	06/16/11 20:24	1.00

Client Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Client Sample ID: HC-5

Lab Sample ID: PUF0442-05

Date Collected: 06/10/11 10:10

Matrix: Water

Date Received: 06/10/11 16:10

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	5.22	Q11	0.400	0.0320	mg/l		06/15/11 13:52	06/16/11 20:42	1.00
Residual Range/Heavy Oil Organics	0.156	J	0.400	0.0560	mg/l		06/15/11 13:52	06/16/11 20:42	1.00
<hr/>									
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	85.2		50 - 150				06/15/11 13:52	06/16/11 20:42	1.00

Client Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Client Sample ID: HC-19

Lab Sample ID: PUF0442-06

Matrix: Water

Date Collected: 06/10/11 09:20
Date Received: 06/10/11 16:10

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Acenaphthylene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Anthracene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Benzo (a) anthracene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Benzo (a) pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Benzo (b) fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Benzo (ghi) perylene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Benzo (k) fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Chrysene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Dibenzo (a,h) anthracene	ND		0.189	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Fluorene	0.141		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Naphthalene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Phenanthrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:00	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	74.5	J	25 - 125				06/15/11 15:05	06/17/11 18:00	1.00
Pyrene-d10	73.9		23 - 150				06/15/11 15:05	06/17/11 18:00	1.00
Benzo (a) pyrene-d12	60.0		10 - 125				06/15/11 15:05	06/17/11 18:00	1.00

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	0.209	J	0.400	0.0320	mg/l		06/15/11 13:52	06/16/11 21:00	1.00
Residual Range/Heavy Oil Organics	ND		0.400	0.0560	mg/l		06/15/11 13:52	06/16/11 21:00	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	85.7		50 - 150				06/15/11 13:52	06/16/11 21:00	1.00

Client Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Client Sample ID: HC-19 Dup

Lab Sample ID: PUF0442-07

Date Collected: 06/10/11 09:20
Date Received: 06/10/11 16:10

Matrix: Water

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Acenaphthylene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Anthracene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Benzo (a) anthracene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Benzo (a) pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Benzo (b) fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Benzo (ghi) perylene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Benzo (k) fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Chrysene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Dibenzo (a,h) anthracene	ND		0.189	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Fluoranthene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Fluorene	0.125		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Naphthalene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Phenanthrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Pyrene	ND		0.0943	ug/l			06/15/11 15:05	06/17/11 18:32	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	80.1		25 - 125				06/15/11 15:05	06/17/11 18:32	1.00
Pyrene-d10	80.5		23 - 150				06/15/11 15:05	06/17/11 18:32	1.00
Benzo (a) pyrene-d12	65.1		10 - 125				06/15/11 15:05	06/17/11 18:32	1.00

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	0.253	J	0.400	0.0320	mg/l		06/15/11 13:52	06/16/11 21:18	1.00
Residual Range/Heavy Oil Organics	ND		0.400	0.0560	mg/l		06/15/11 13:52	06/16/11 21:18	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	89.3		50 - 150				06/15/11 13:52	06/16/11 21:18	1.00

QC Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Lab Sample ID: 11F0460-BLK1

Matrix: Water

Analysis Batch: 11F0460

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11F0460_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Acenaphthylene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Anthracene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Benzo (a) anthracene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Benzo (a) pyrene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Benzo (b) fluoranthene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Benzo (ghi) perylene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Benzo (k) fluoranthene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Chrysene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Dibenzo (a,h) anthracene	ND		0.200		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Fluoranthene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Fluorene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Indeno (1,2,3-cd) pyrene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Naphthalene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Phenanthrene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00
Pyrene	ND		0.100		ug/l		06/15/11 15:05	06/17/11 12:13	1.00

Surrogate	Blank	Blank	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	Result	Limits						
Fluorene-d10	82.9	25 - 125				06/15/11 15:05	06/17/11 12:13	1.00
Pyrene-d10	86.8	23 - 150				06/15/11 15:05	06/17/11 12:13	1.00
Benzo (a) pyrene-d12	83.0	10 - 125				06/15/11 15:05	06/17/11 12:13	1.00

Lab Sample ID: 11F0460-BS1

Matrix: Water

Analysis Batch: 11F0460

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11F0460_P

Analyte	Blank	Blank	Spike Added	LCS		Unit	D	% Rec	Limits	% Rec.
	Result	Qualifier		Result	Qualifier					
Acenaphthene			2.50	2.05		ug/l		82.2	26 - 135	
Benzo (a) pyrene			2.50	2.13		ug/l		85.4	38 - 137	
Pyrene			2.50	2.06		ug/l		82.2	33 - 133	

Surrogate	Blank	Blank	% Recovery	Qualifier	Limits
	Result	Limits			
Fluorene-d10	94.1	25 - 125			
Pyrene-d10	92.3	23 - 150			
Benzo (a) pyrene-d12	95.2	10 - 125			

Lab Sample ID: 11F0460-BSD1

Matrix: Water

Analysis Batch: 11F0460

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 11F0460_P

Analyte	Blank	Blank	Spike Added	LCS Dup		Unit	D	% Rec	Limits	RPD
	Result	Qualifier		Result	Qualifier					
Acenaphthene			2.50	1.95		ug/l		78.1	26 - 135	5.06
Benzo (a) pyrene			2.50	1.99		ug/l		79.7	38 - 137	6.94
Pyrene			2.50	1.93		ug/l		77.1	33 - 133	6.39

Surrogate	Blank	Blank	% Recovery	Qualifier	Limits
	Result	Limits			
Fluorene-d10	88.0	25 - 125			
Pyrene-d10	83.7	23 - 150			

TestAmerica Portland

QC Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0442

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM (Continued)

Lab Sample ID: 11F0460-BSD1

Matrix: Water

Analysis Batch: 11F0460

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 11F0460_P

Surrogate	LCS Dup	LCS Dup	% Recovery	Qualifier	Limits
Benzo (a) pyrene-d12			85.8		10 - 125

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Lab Sample ID: 11F0489-BLK1

Matrix: Water

Analysis Batch: 11F0489

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11F0489_P

Analyte	Blank	Blank	Result		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics	ND		0.500		0.0400		mg/l		06/15/11 13:52		06/16/11 17:17	
Residual Range/Heavy Oil Organics	ND		0.500		0.0700		mg/l		06/15/11 13:52		06/16/11 17:17	
Surrogate	Blank	Blank	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctadecane	83.9		50 - 150						06/15/11 13:52		06/16/11 17:17	

Lab Sample ID: 11F0489-BS1

Matrix: Water

Analysis Batch: 11F0489

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11F0489_P

Analyte	Spike	LCS	LCS	% Rec.
	Added	Result	Qualifier	Unit
Diesel Range Organics	12.5	11.3		mg/l
Residual Range/Heavy Oil Organics	7.50	6.46		mg/l
Surrogate	LCS	LCS	% Rec.	Limits
1-Chlorooctadecane	90.5	60 - 120		

Lab Sample ID: 11F0489-BSD1

Matrix: Water

Analysis Batch: 11F0489

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 11F0489_P

Analyte	Spike	LCS Dup	LCS Dup	% Rec.
	Added	Result	Qualifier	Unit
Diesel Range Organics	12.5	10.9		mg/l
Residual Range/Heavy Oil Organics	7.50	6.33		mg/l
Surrogate	LCS Dup	LCS Dup	% Rec.	RPD
1-Chlorooctadecane	88.4	60 - 120		Limit

Certification Summary

Client: Ash Creek Associates, Inc.

TestAmerica Job ID: PUF0442

Project/Site: 1007-03

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Portland	Alaska	Alaska UST	10	UST-012
TestAmerica Portland	Alaska	State Program	10	OR00040
TestAmerica Portland	California	State Program	9	2597
TestAmerica Portland	Oregon	NELAC	10	OR100021
TestAmerica Portland	USDA	USDA		P330-11-00092

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

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Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

CHAIN OF CUSTODY RECORD

Client Name: Ash Creek Associates
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Telephone Number: 503.924.4704
Fax No.: 503.943.6357

PUFO442

Project Manager: Michael Pickering

Analytical Lab: TestAmerica

Project Name: T4S3 Groundwater

Report To: Michael Pickering

Project Number: 1007-03

Page: 1 of 1

Sampler Name: I. Maguire

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative		Matrix		Analyze For:		RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report		
							Ice	HNO ₃ (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H ₂ SO ₄ Plastic (Yellow Label)	H ₂ SO ₄ Glass (Yellow Label)	None (Black Label)	Groundwater	Wastewater	Drinking Water	Sludge	Soil
BE-3	6/9/11	1130	2	X			X	1						X	X		X	
BE-5	6/9/11	1115	2	X			X	1						X	X		X	
HC-21	6/9/11	1555	2	X			X	1						X	X		X	
HC-24	6/9/11	1510	2	X			X	1						X	X		X	
HC-5	6/10/11	1010	1	X			X	1						X			X	
HC-19	6/10/11	920	2	X			X	1						X	X		X	
HC-19 Dup	6/10/11	920	2	X			X	1						X	X		X	
Special Instructions:		- Bill to Ash Creek using Port of Portland rates - Need MDL report for NWTPH-Dx only Method of Shipment:													Laboratory Comments:	Temperature Upon Receipt: <u>56</u> VOCs Free of Headspace? Y N		
Relinquished by: Name/Company <u>Ian Maguire Ash Creek</u>		Date <u>6/10/11</u>	Time <u>1610</u>	Received by: Name/Company <u>PHIL SUBLIK TRP</u>	Date <u>6/10/11</u>	Time <u>1610</u>												
Relinquished by: Name/Company		Date	Time	Received by: Name/Company	Date	Time												
Relinquished by: Name/Company		Date	Time	Received by: Name/Company	Date	Time												
Relinquished by: Name/Company		Date	Time	Received by: Name/Company	Date	Time												

Portland Sample Control Checklist

Work Order #: PUF0440 Date/Time Received: 6/10/11 @ 16:10

Client Name: ASH CREEK ASSOCIATES

Project Name: T453 GROUNDWATER

Time Zone:

EDT/EST CDT/CST MDT/MST PDT/PST AK HI OTHER

Unpacking Checks:

Cooler (s): 1 _____

Temperature (s): 56 _____

Digi #1 Digi #2 IR Gun
 Plastic Glass

Raytek
 Plastic Glass

Ice used: (circle one) GEL LOOSE BLUE NONE OTHER: _____ Initials: PS

Temperature out of Range:

- Not enough or No Ice
- Ice Melted
- W/in 4 Hrs of collection
- Ice Not Needed
- Other: _____

N/A Yes No

- | | | |
|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. If ESI client, were temp blanks received? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. Cooler Seals intact? (N/A if hand delivered) if no and ESI client, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. Chain of Custody present? If no, document on NOD. Along with "received by" & "relinquished by" signatures with date & time? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Bottles received intact? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5. Sample is not multiphasic? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 6. Sampler name/signature documented on COC? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7. Proper Container and preservatives used? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8. pH for HN03/ESI samples checked and meet requirements? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9. Cyanide samples checked for sulfides and meet requirements? If no, notify PM. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 10. HF Dilution required? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 11. Sufficient volume provided for all analysis and requested MS/MSD? If no, document on NOD and consult PM before proceeding. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 12. Did chain of custody agree with samples received? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 13. Were VOA samples received without headspace? |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 14. Did samples require preservation with sodium thiosulfate? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 15. If yes to #14, was the residual chlorine test negative? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 16. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 17. Are analyses with short holding times received in hold? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 18. Were special log- in instructions read and followed? |

Checklist Reviewed: Log-in initials: PS Labeler initials: PS

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Portland

9405 SW Nimbus Ave.

Beaverton, OR 97008

Tel: (503) 906-9200

TestAmerica Job ID: PUF0741

Client Project/Site: 1007-03

Client Project Description: T4S3 - GW Monitoring - 2011

For:

Ash Creek Associates, Inc.

3015 SW First Avenue

Portland, OR 97201

Attn: Michael Pickering

Darrell W. Auvil

Authorized for release by:

07/06/2011 03:57:59 PM

Darrell Auvil

Project Manager

darrell.auvil@testamericainc.com

LINKS

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results through

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Ask
The
Expert

Visit us at:

www.testamericainc.com

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Sample Summary

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0741

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
PUF0741-01	BE-1	Water	06/21/11 12:00	06/21/11 16:35

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Definitions/Glossary

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0741

Qualifiers

Fuels

Qualifier	Qualifier Description
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

⊕	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

Client Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0741

Client Sample ID: BE-1

Date Collected: 06/21/11 12:00

Date Received: 06/21/11 16:35

Lab Sample ID: PUF0741-01

Matrix: Water

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Acenaphthylene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Anthracene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Benzo (a) anthracene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Benzo (a) pyrene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Benzo (b) fluoranthene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Benzo (ghi) perylene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Benzo (k) fluoranthene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Chrysene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Dibenzo (a,h) anthracene	ND		0.189	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Fluoranthene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Fluorene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Naphthalene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Phenanthrene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Pyrene	ND		0.0943	ug/l			06/23/11 11:10	06/24/11 11:34	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorene-d10	68.4		25 - 125				06/23/11 11:10	06/24/11 11:34	1.00
Pyrene-d10	72.9		23 - 150				06/23/11 11:10	06/24/11 11:34	1.00
Benzo (a) pyrene-d12	51.1		10 - 125				06/23/11 11:10	06/24/11 11:34	1.00

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	0.0918	J	0.400	0.0320	mg/l		06/27/11 11:30	06/27/11 15:09	1.00
Residual Range/Heavy Oil Organics	0.0788	J	0.400	0.0560	mg/l		06/27/11 11:30	06/27/11 15:09	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	61.4		50 - 150				06/27/11 11:30	06/27/11 15:09	1.00

QC Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0741

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM

Lab Sample ID: 11F0701-BLK1

Matrix: Water

Analysis Batch: 11F0701

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11F0701_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Acenaphthylene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Anthracene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Benzo (a) anthracene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Benzo (a) pyrene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Benzo (b) fluoranthene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Benzo (ghi) perylene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Benzo (k) fluoranthene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Chrysene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Dibenzo (a,h) anthracene	ND		0.200		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Fluoranthene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Fluorene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Indeno (1,2,3-cd) pyrene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Naphthalene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Phenanthrene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00
Pyrene	ND		0.100		ug/l		06/23/11 11:10	06/24/11 13:10	1.00

Blank Blank

Surrogate	Blank	Blank	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier						
Fluorene-d10	73.9		25 - 125			06/23/11 11:10	06/24/11 13:10	1.00
Pyrene-d10	78.9		23 - 150			06/23/11 11:10	06/24/11 13:10	1.00
Benzo (a) pyrene-d12	83.9		10 - 125			06/23/11 11:10	06/24/11 13:10	1.00

Lab Sample ID: 11F0701-BS1

Matrix: Water

Analysis Batch: 11F0701

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11F0701_P

Analyte	Blank	Blank	Spike Added	Blank	LCS	LCS	Unit	D	% Rec	Limits
	Result	Qualifier		Result	Qualifier	Unit				
Acenaphthene			2.50	1.85		ug/l		74.1	26 - 135	
Benzo (a) pyrene			2.50	2.15		ug/l		86.1	38 - 137	
Pyrene			2.50	2.05		ug/l		82.1	33 - 133	

Blank Blank

Surrogate	Blank	Blank	% Recovery	Qualifier	Limits
	% Recovery	Qualifier			
Fluorene-d10	82.0		25 - 125		
Pyrene-d10	84.5		23 - 150		
Benzo (a) pyrene-d12	88.1		10 - 125		

Lab Sample ID: 11F0701-BSD1

Matrix: Water

Analysis Batch: 11F0701

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 11F0701_P

Analyte	Blank	Blank	Spike Added	Blank	LCS Dup	LCS Dup	Unit	D	% Rec	Limits	RPD
	Result	Qualifier		Result	Qualifier	Unit					
Acenaphthene			2.50	1.99		ug/l		79.6	26 - 135	7.12	35
Benzo (a) pyrene			2.50	2.27		ug/l		90.9	38 - 137	5.36	35
Pyrene			2.50	2.15		ug/l		85.8	33 - 133	4.44	35

Blank Blank

Surrogate	Blank	Blank	% Recovery	Qualifier	Limits
	% Recovery	Qualifier			
Fluorene-d10	86.9		25 - 125		
Pyrene-d10	87.3		23 - 150		

TestAmerica Portland

QC Sample Results

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0741

Method: EPA 8270m - Polynuclear Aromatic Compounds per EPA 8270M-SIM (Continued)

Lab Sample ID: 11F0701-BSD1

Matrix: Water

Analysis Batch: 11F0701

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 11F0701_P

Surrogate	LCS Dup	LCS Dup	% Recovery	Qualifier	Limits
Benzo (a) pyrene-d12	93.9				10 - 125

Method: NWTPH-Dx Modified - Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

Lab Sample ID: 11F0805-BLK1

Matrix: Water

Analysis Batch: 11F0805

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11F0805_P

Analyte	Blank	Blank	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics			0.0588	J	0.500	0.0400	mg/l		06/27/11 11:30	06/27/11 13:05	1.00
Residual Range/Heavy Oil Organics			ND		0.500	0.0700	mg/l		06/27/11 11:30	06/27/11 13:05	1.00
Surrogate	Blank	Blank	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane			88.8		50 - 150				06/27/11 11:30	06/27/11 13:05	1.00

Lab Sample ID: 11F0805-BS1

Matrix: Water

Analysis Batch: 11F0805

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11F0805_P

Analyte	Spike	LCS	LCS	% Rec.				
	Added	Result	Qualifier	Unit	D	% Rec	Limits	
Diesel Range Organics	12.5	8.34		mg/l		66.7	50 - 150	
Residual Range/Heavy Oil Organics	7.50	4.48		mg/l		59.7	50 - 150	
Surrogate	LCS	LCS	% Recovery	Qualifier	Limits			
1-Chlorooctadecane	65.5				60 - 120			

Lab Sample ID: 11F0805-BSD1

Matrix: Water

Analysis Batch: 11F0805

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 11F0805_P

Analyte	Spike	LCS Dup	LCS Dup	% Rec.					
	Added	Result	Qualifier	Unit	D	% Rec	Limits	RPD	Limit
Diesel Range Organics	12.5	8.83		mg/l		70.6	50 - 150	5.67	20
Residual Range/Heavy Oil Organics	7.50	4.75		mg/l		63.3	50 - 150	5.83	20
Surrogate	LCS Dup	LCS Dup	% Recovery	Qualifier	Limits				
1-Chlorooctadecane	71.6				60 - 120				

Certification Summary

Client: Ash Creek Associates, Inc.
Project/Site: 1007-03

TestAmerica Job ID: PUF0741

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Portland	Alaska	Alaska UST	10	UST-012
TestAmerica Portland	Alaska	State Program	10	OR00040
TestAmerica Portland	California	State Program	9	2597
TestAmerica Portland	Oregon	NELAC	10	OR100021
TestAmerica Portland	USDA	USDA		P330-11-00092
TestAmerica Portland	Washington	State Program	10	C586

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

CHAIN OF CUSTODY RECORD

Client Name: Ash Creek Associates
 Address: 3015 SW First Ave
 City/State/Zip: Portland, OR 97201

Telephone Number: 503.924.4704
 Fax No.: 503.943.6357

PuF0741

Project Manager: Michael Pickering

Analytical Lab: TestAmerica

Project Name: T4S3 1SA2011 GWM

Report To: Michael Pickering

Project Number: 1007-03

Page: 1 of 1

Sampler Name: I. Maguire

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Field Filtered	Preservative				Matrix			Analyze For:				RUSH/TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
					Ice	HNO ₃ (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H ₂ SO ₄ Plastic (Yellow Label)	H ₂ SO ₄ Glass (Yellow Label)	None (Black Label)	Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):		
BE-1	6/21/11	1200	2	X	X		X	1				X				X X		X	
Special Instructions:		- Bill to Ash Creek using Port of Portland rates - Need MDL report for NWTPH-Dx only														Laboratory Comments:	10.3°C		
																Temperature Upon Receipt:			
																VOCs Free of Headspace?	Y N		
Relinquished by: Name/Company <i>I. Maguire</i> <i>Ash Creek Assoc.</i>	Date 6/21/11	Time 1635	Received by: Name/Company <i>MARSH</i> <i>Karen Maguire</i>	Date 6/21/11	Time 1635														
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time														
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time														
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time														

Portland Sample Control Checklist

Work Order #: PuF0741 Date/Time Received: 6-21-11 1635

Client Name: ASH CREEK

Project Name: T4S3 1SA 2011 GWM

Time Zone:

EDT/EST CDT/CST MDT/MST PDT/PST AK HI OTHER

Unpacking Checks:

Cooler (s): Temperature (s): 103 °C

Digi #1 Digi #2 IR Gun
 (Plastic Glass)

Raytek
 (Plastic Glass)

Ice used: (circle one) GEL LOOSE BLUE NONE OTHER: _____ Initials: X

Temperature out of Range:

- Not enough or No Ice
- Ice Melted
- Within 4 Hrs of collection
- Ice Not Needed
- Other: _____

N/A Yes No

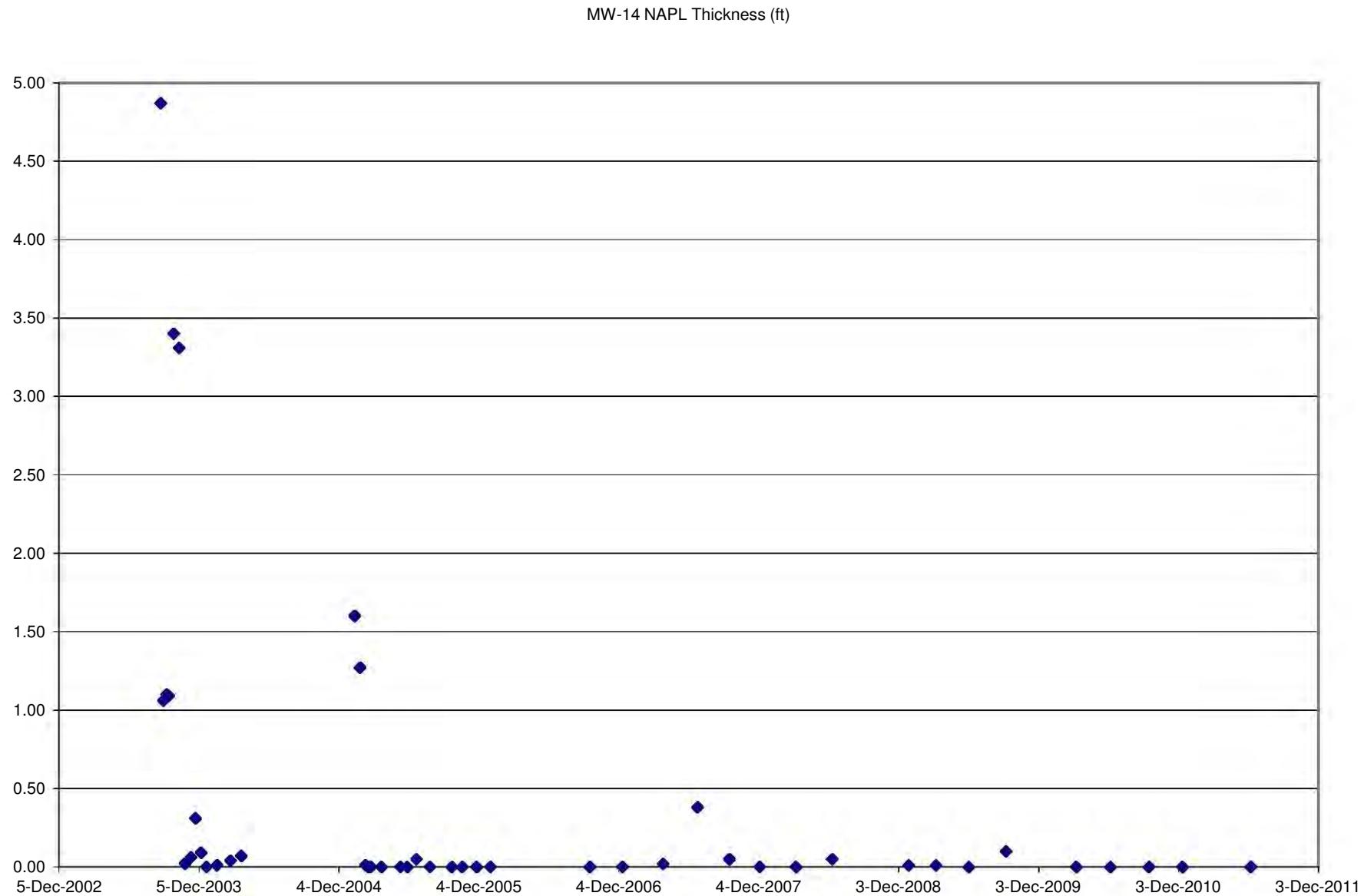
- 1. If ESI client, were temp blanks received? If no, document on NOD.
- 2. Cooler Seals intact? (N/A if hand delivered) if no and ESI client, document on NOD.
- 3. Chain of Custody present? If no, document on NOD. Along with "received by" & "relinquished by" signatures with date & time?
- 4. Bottles received intact? If no, document on NOD.
- 5. Sample is not multiphasic? If no, document on NOD.
- 6. Sampler name/signature documented on COC?
- 7. Proper Container and preservatives used? If no, document on NOD.
- 8. pH for HN03/ESI samples checked and meet requirements? If no, document on NOD.
- 9. Cyanide samples checked for sulfides and meet requirements? If no, notify PM.
- 10. HF Dilution required?
- 11. Sufficient volume provided for all analysis and requested MS/MSD? If no, document on NOD and consult PM before proceeding.
- 12. Did chain of custody agree with samples received? If no, document on NOD.
- 13. Were VOA samples received without headspace?
- 14. Did samples require preservation with sodium thiosulfate?
- 15. If yes to #14, was the residual chlorine test negative? If no, document on NOD.
- 16. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD.
- 17. Are analyses with short holding times received in hold?
- 18. Were special log- in instructions read and followed?

LIMITED VOL
 (125mL) FOR 10

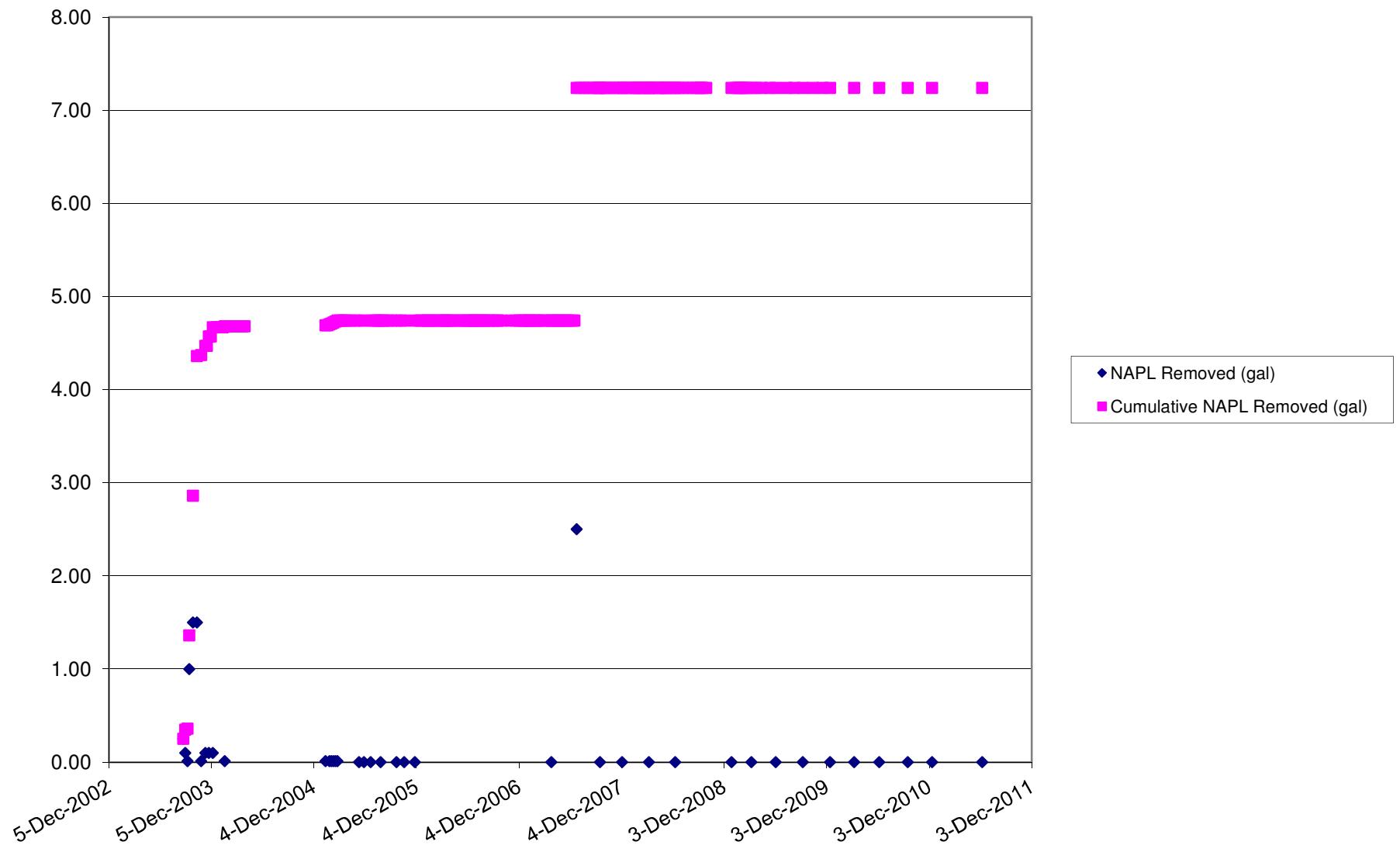
Checklist Reviewed: Log-in initials: J Labeler initials: K

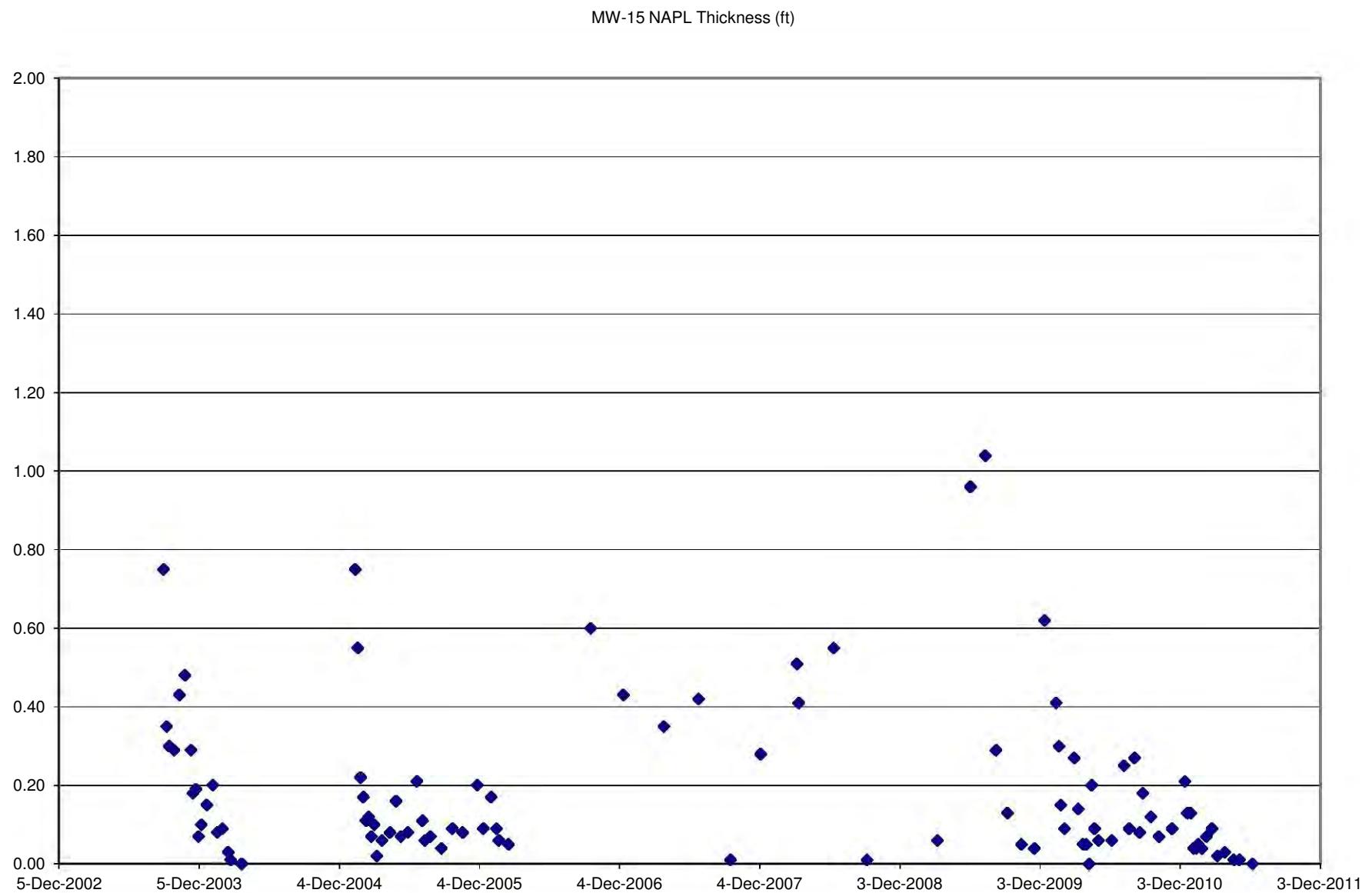
Appendix C

LNAPL Thickness and Recovery Trend Plots

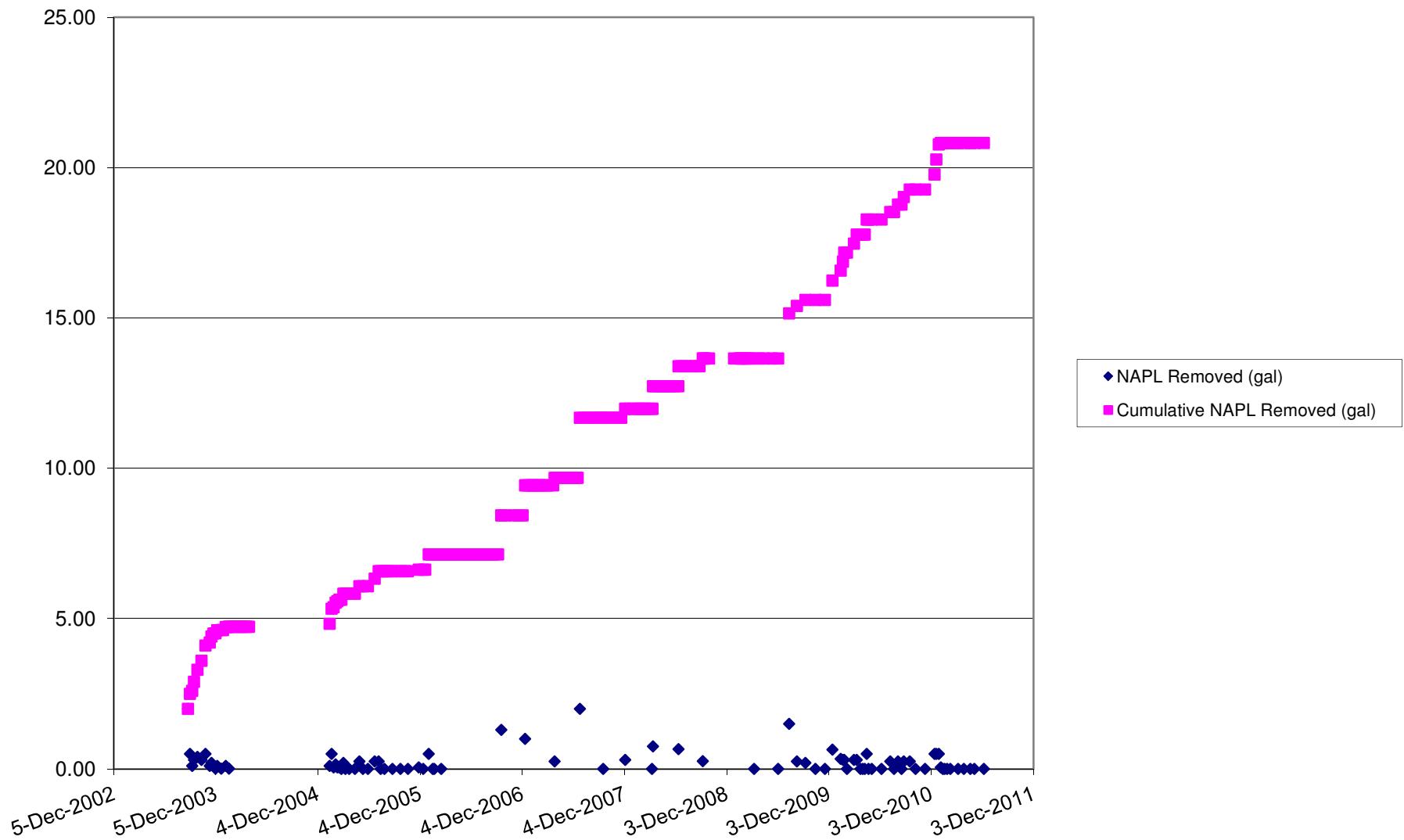


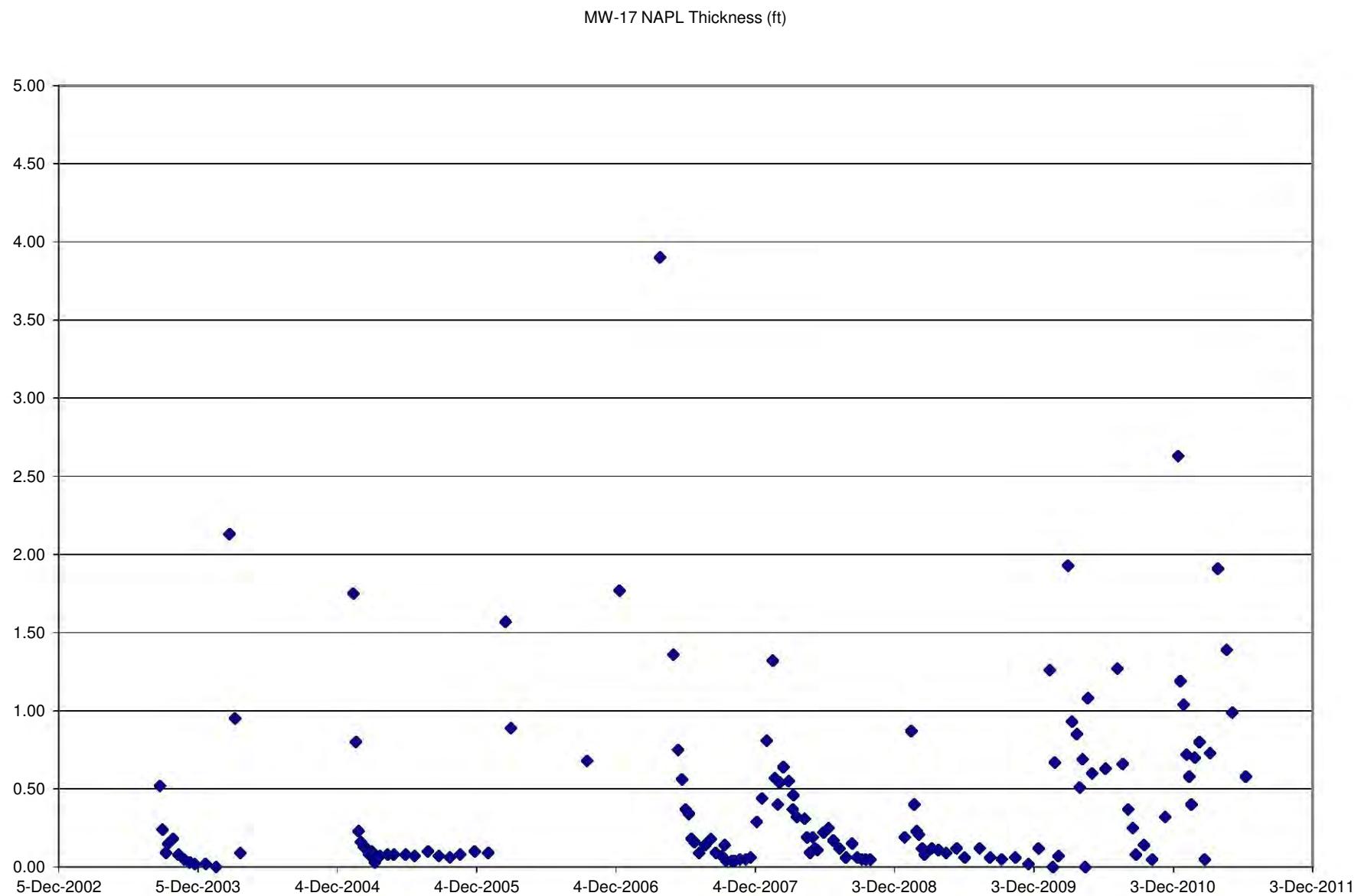
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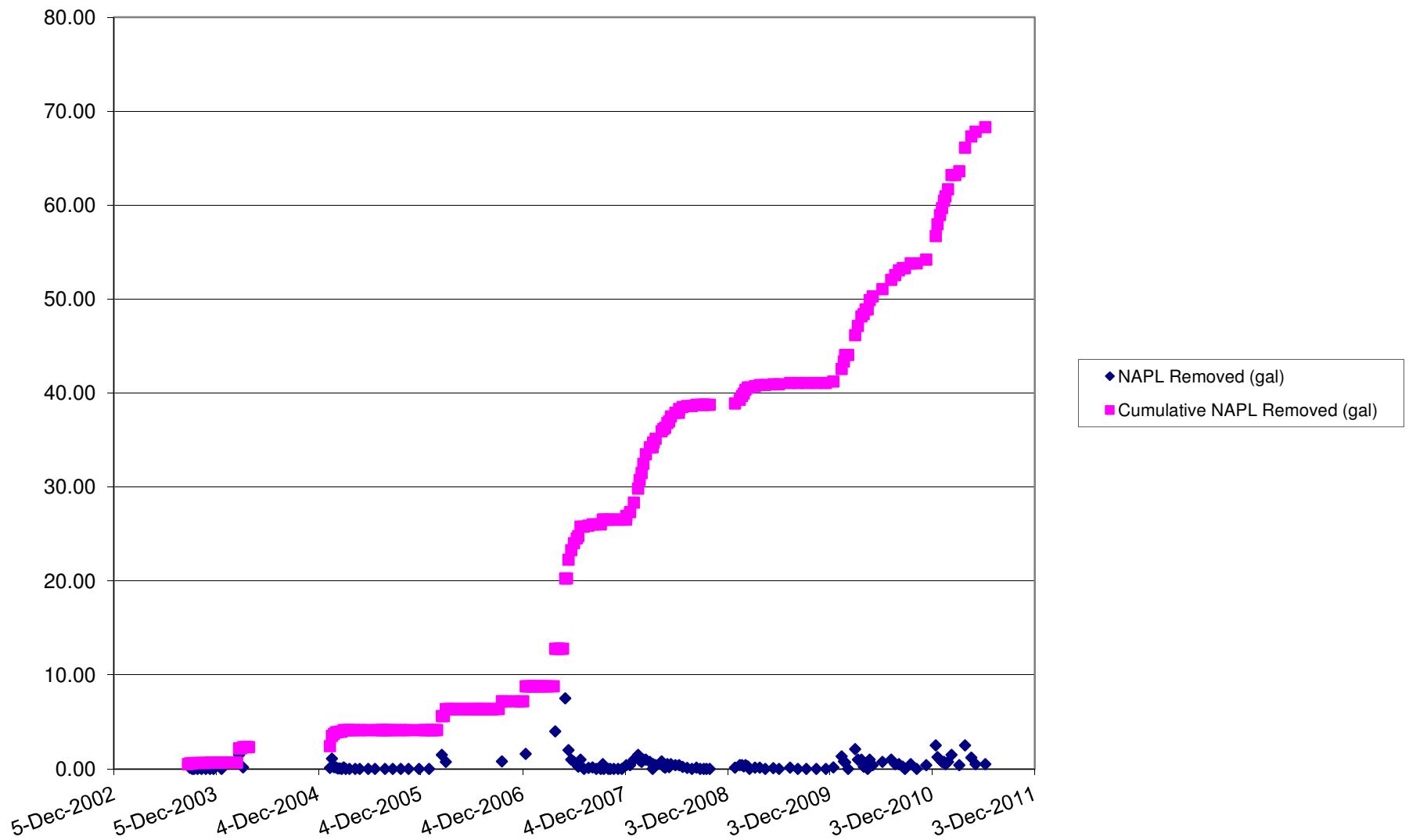


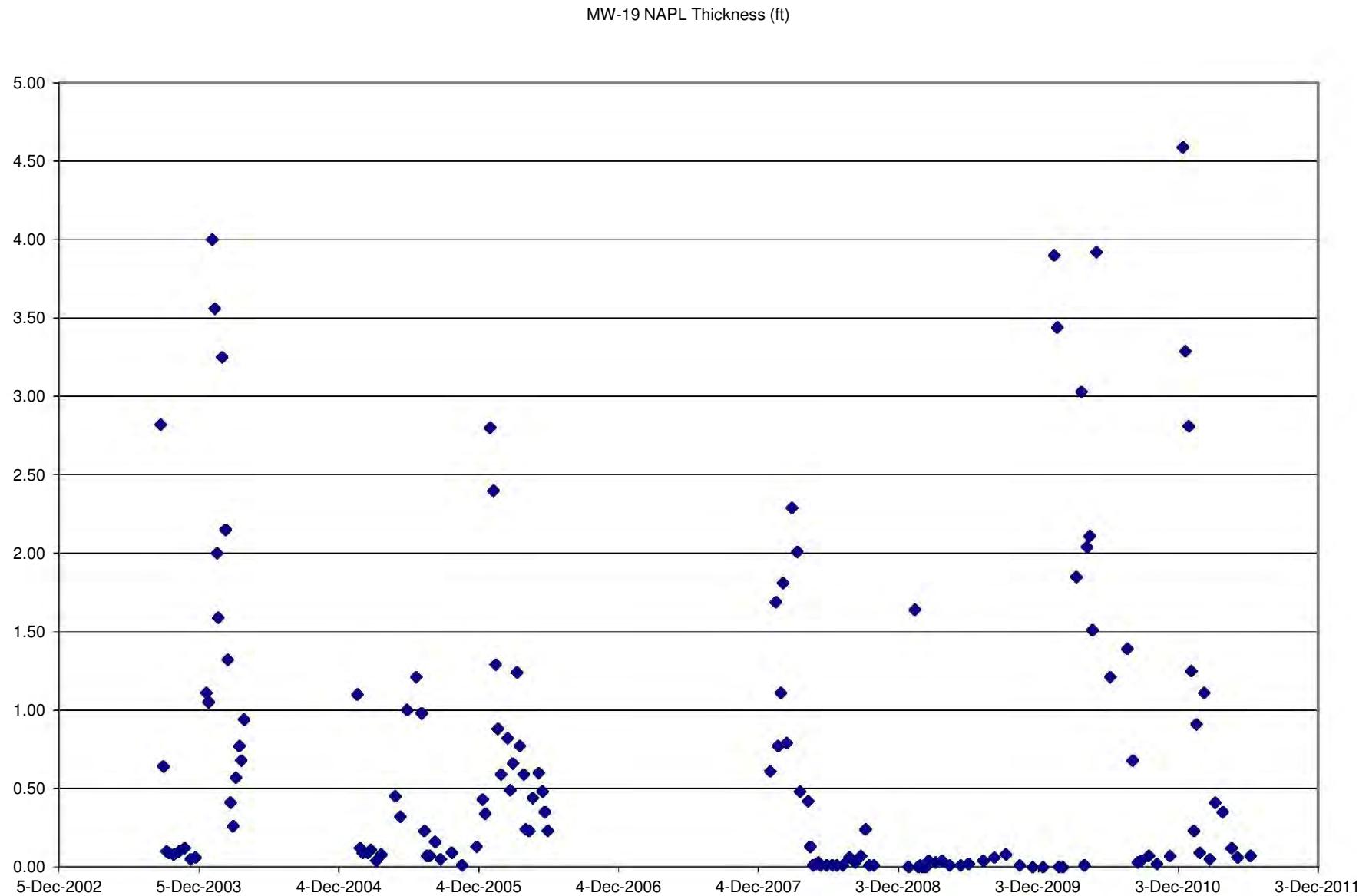
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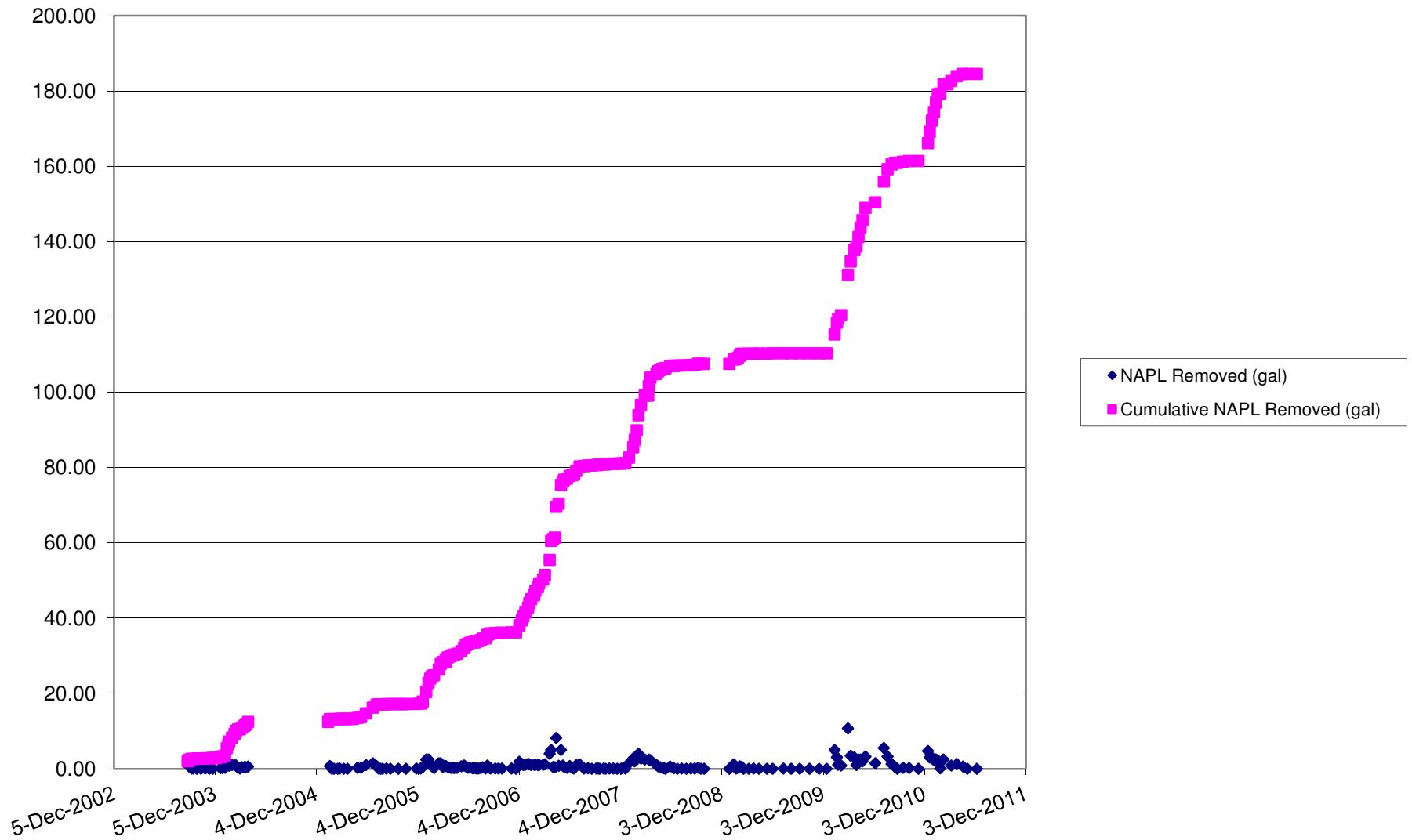


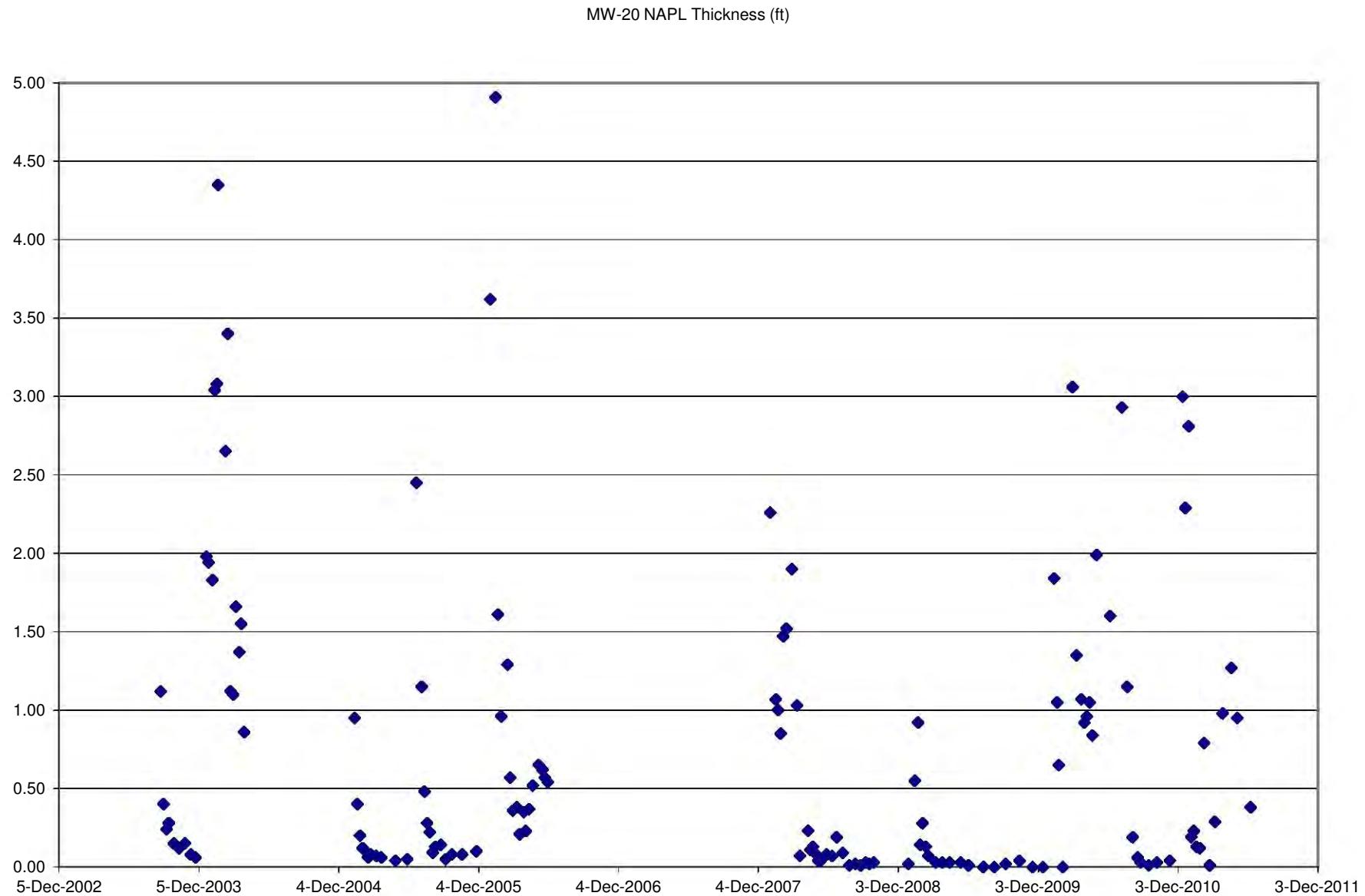
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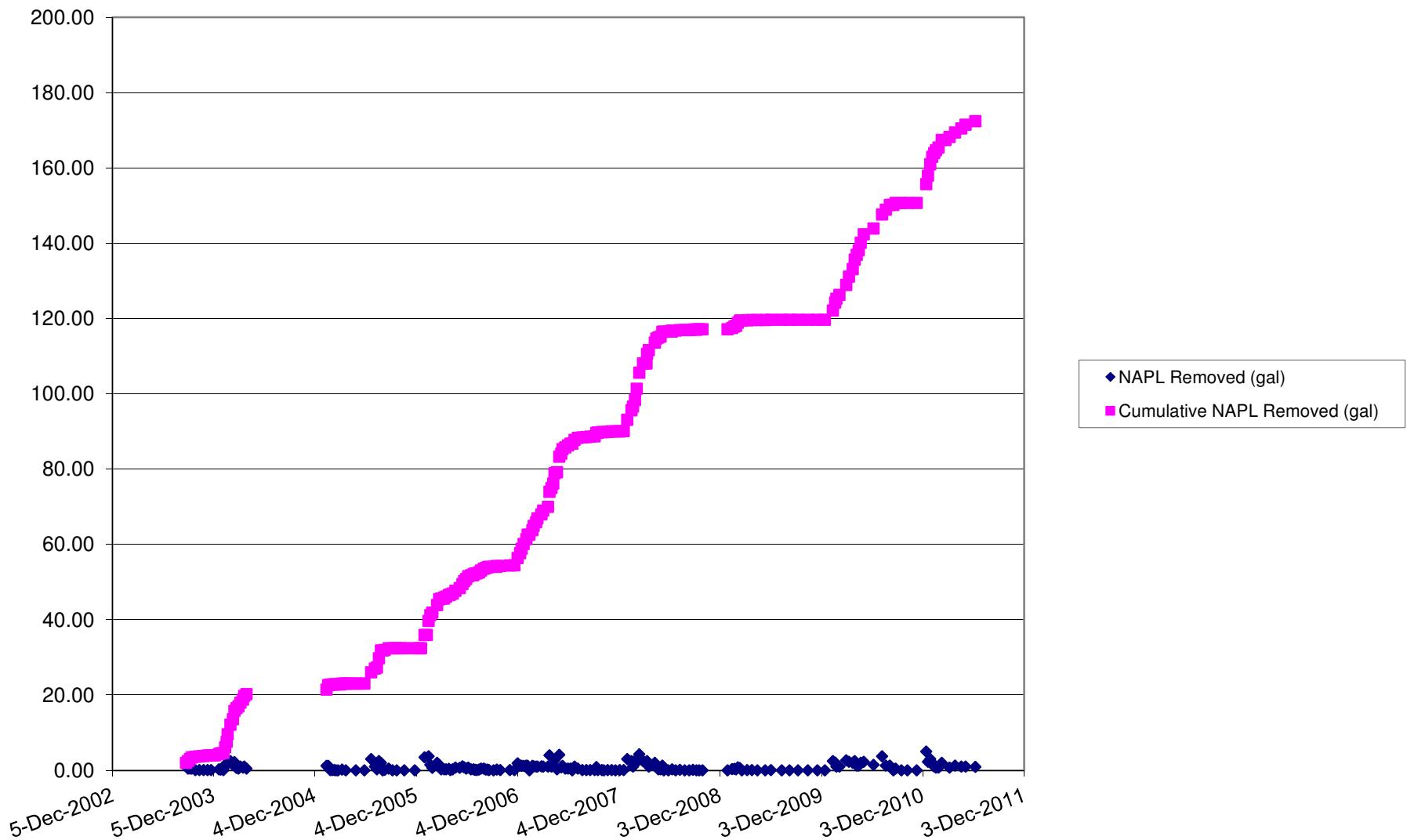


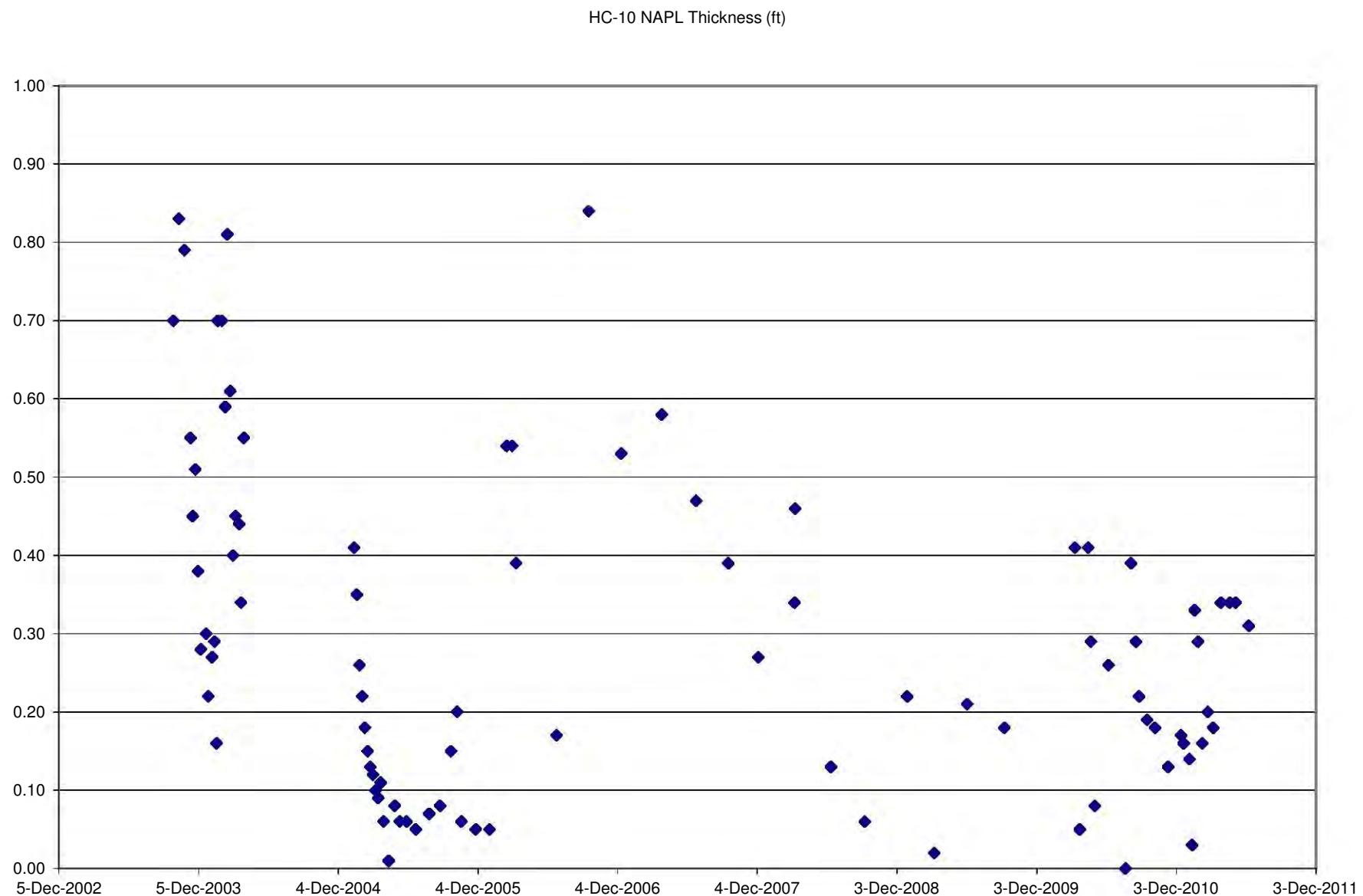
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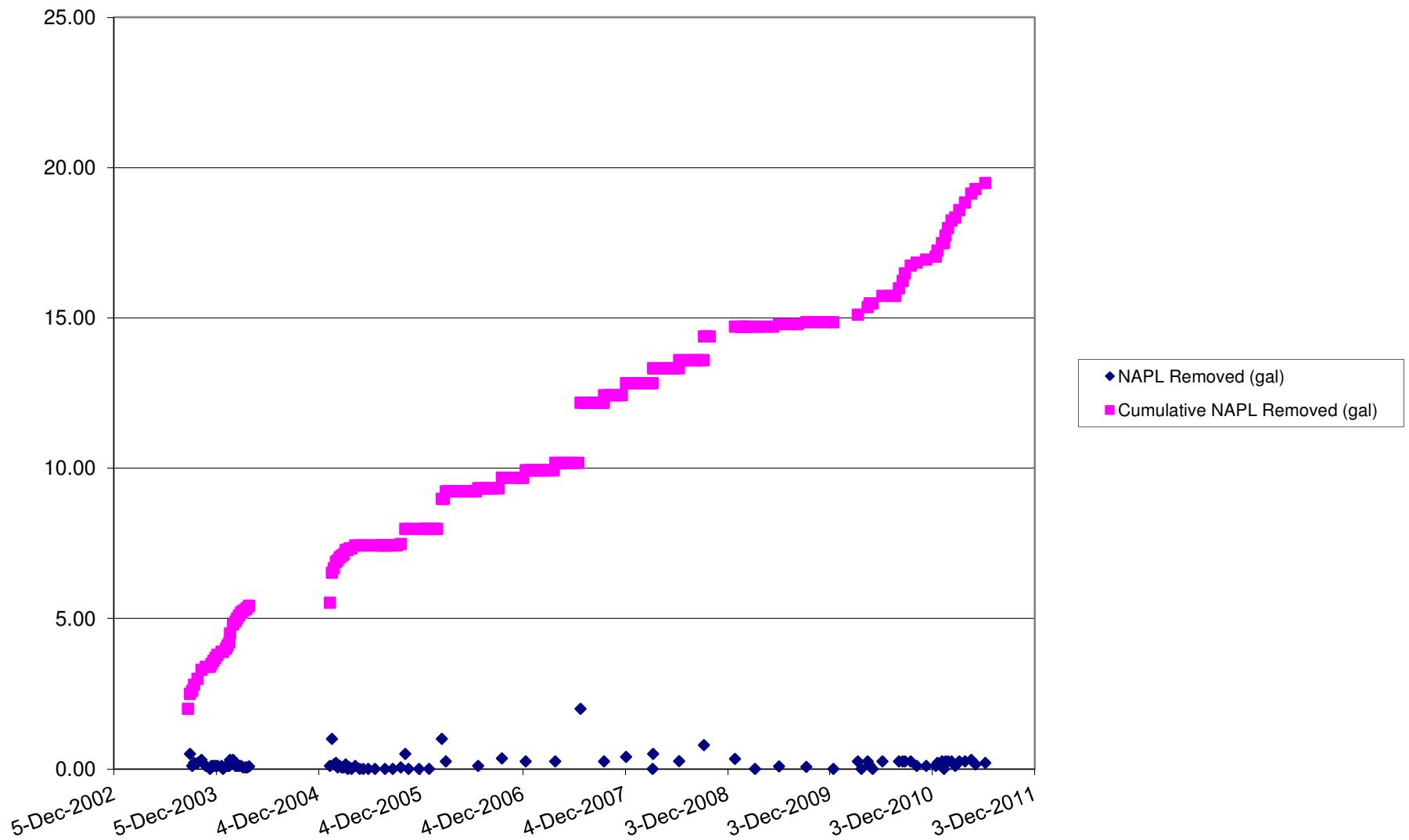


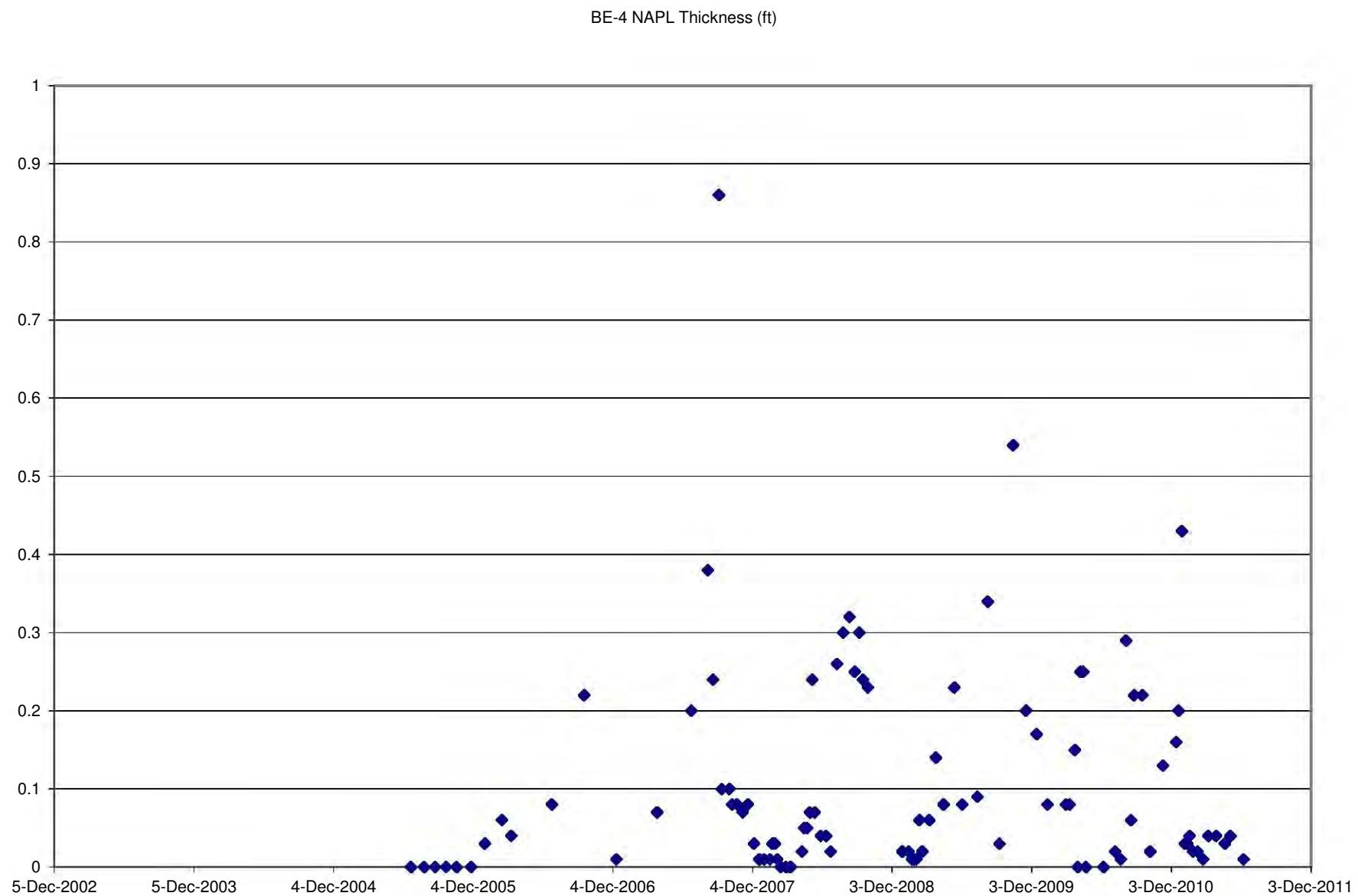
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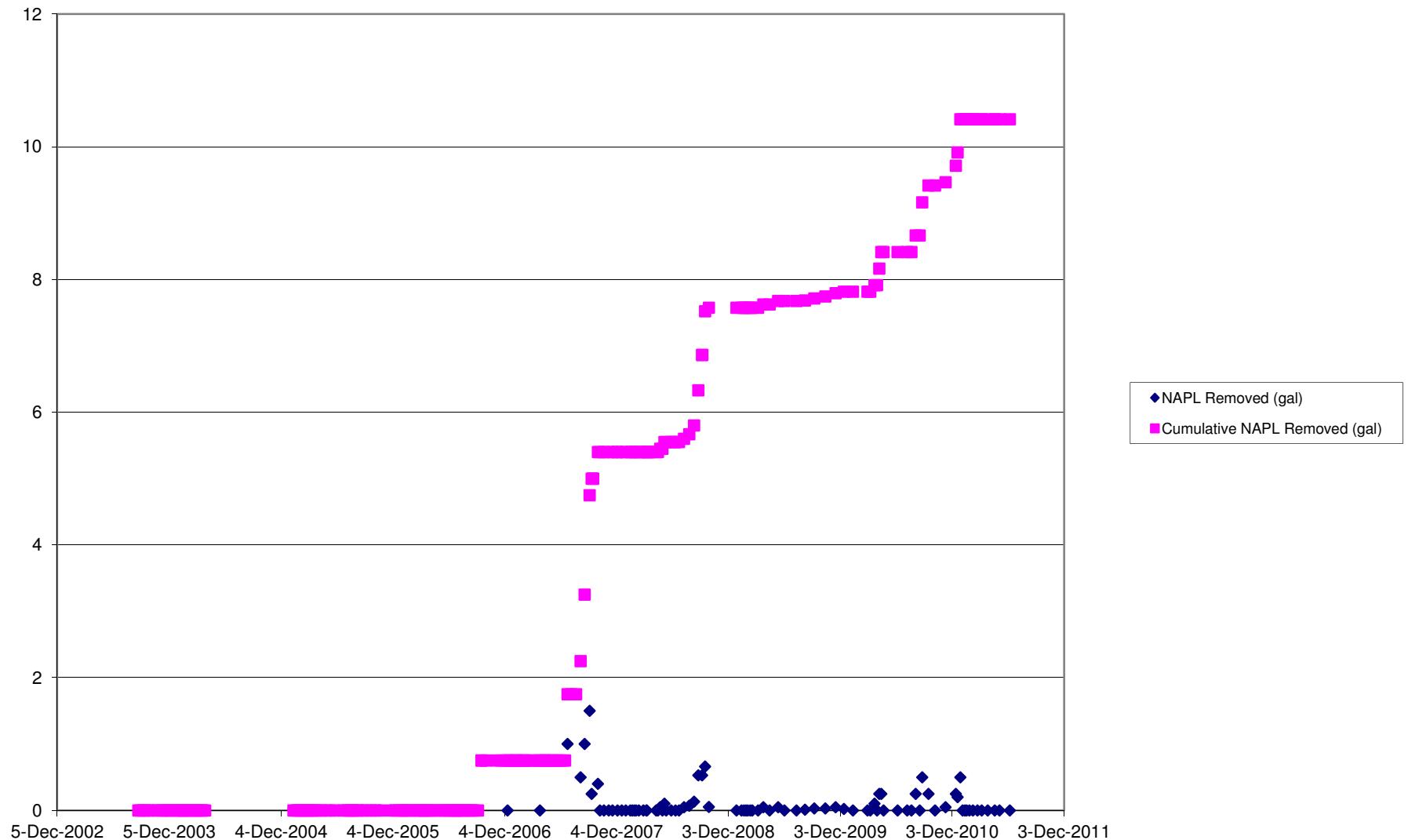


HC-10





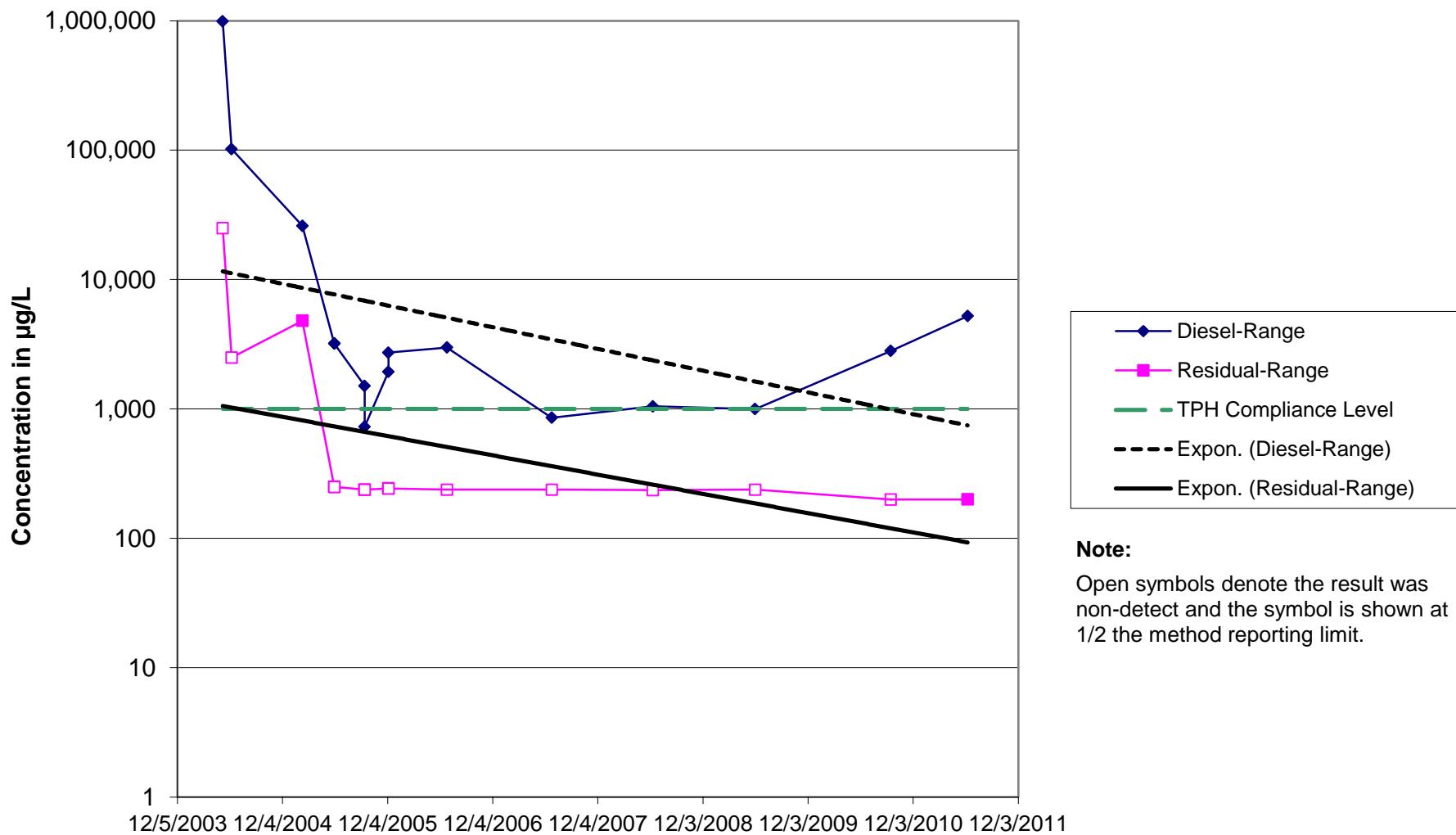
BE-4



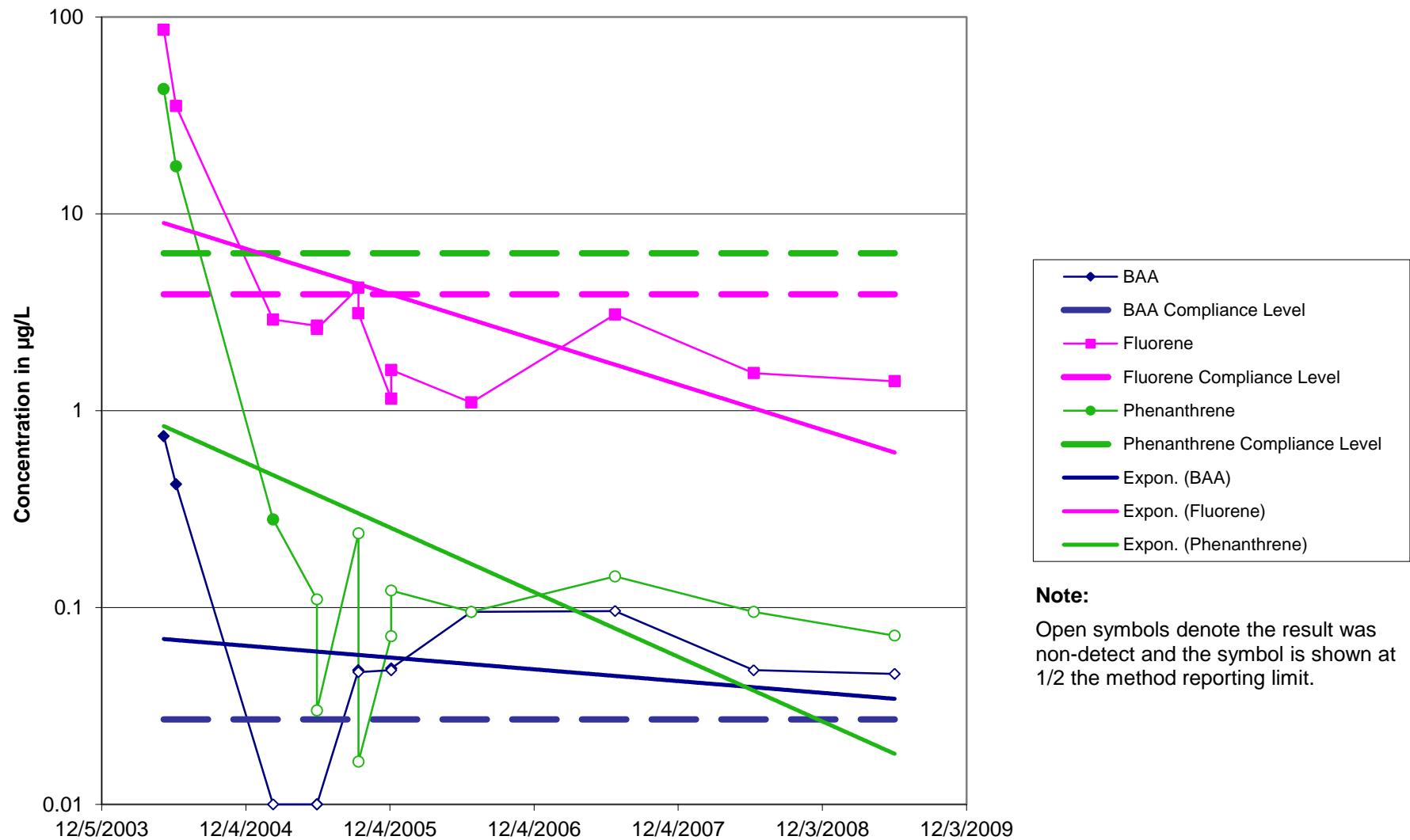
Appendix D

Chemical Concentration Trend Plots

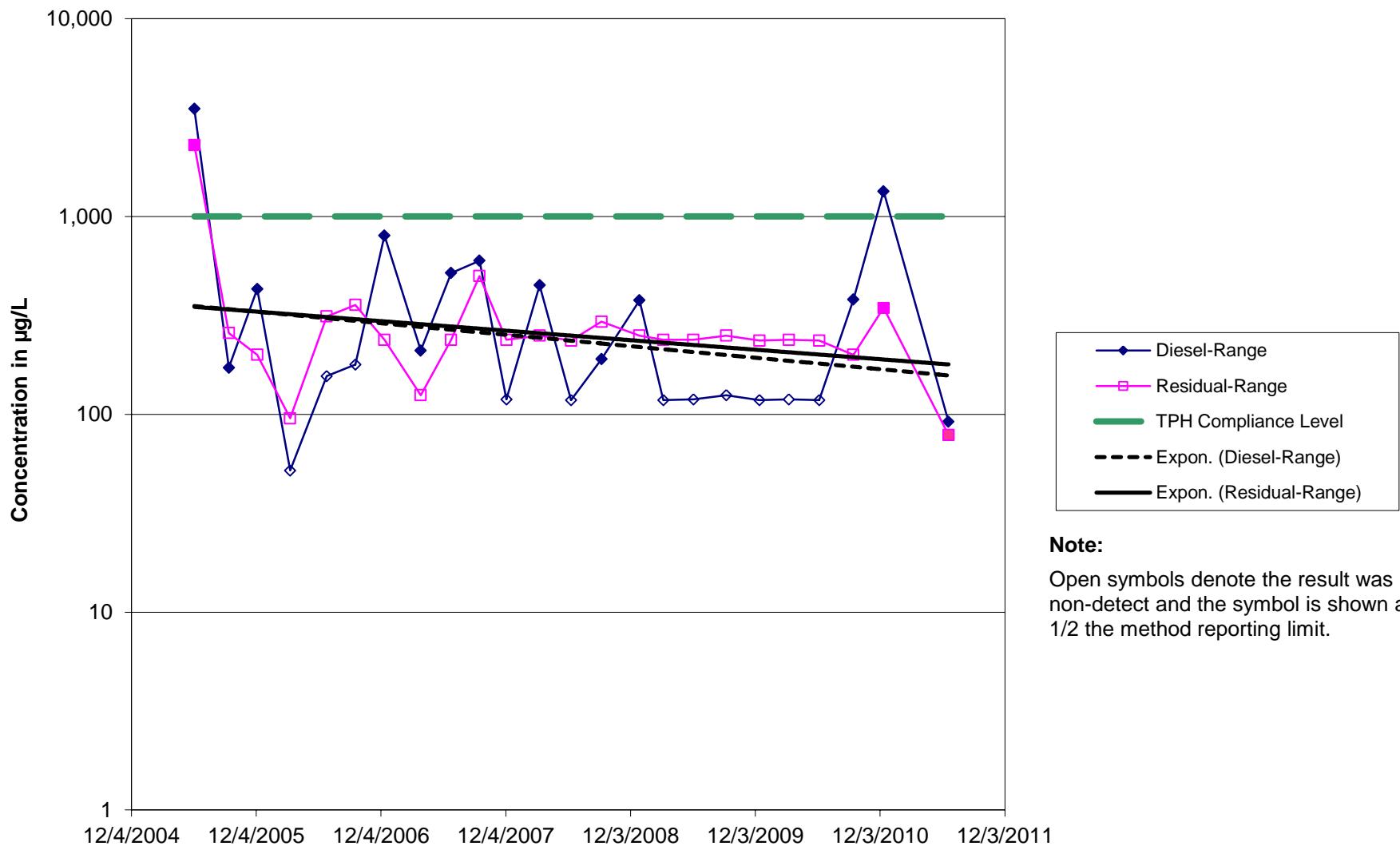
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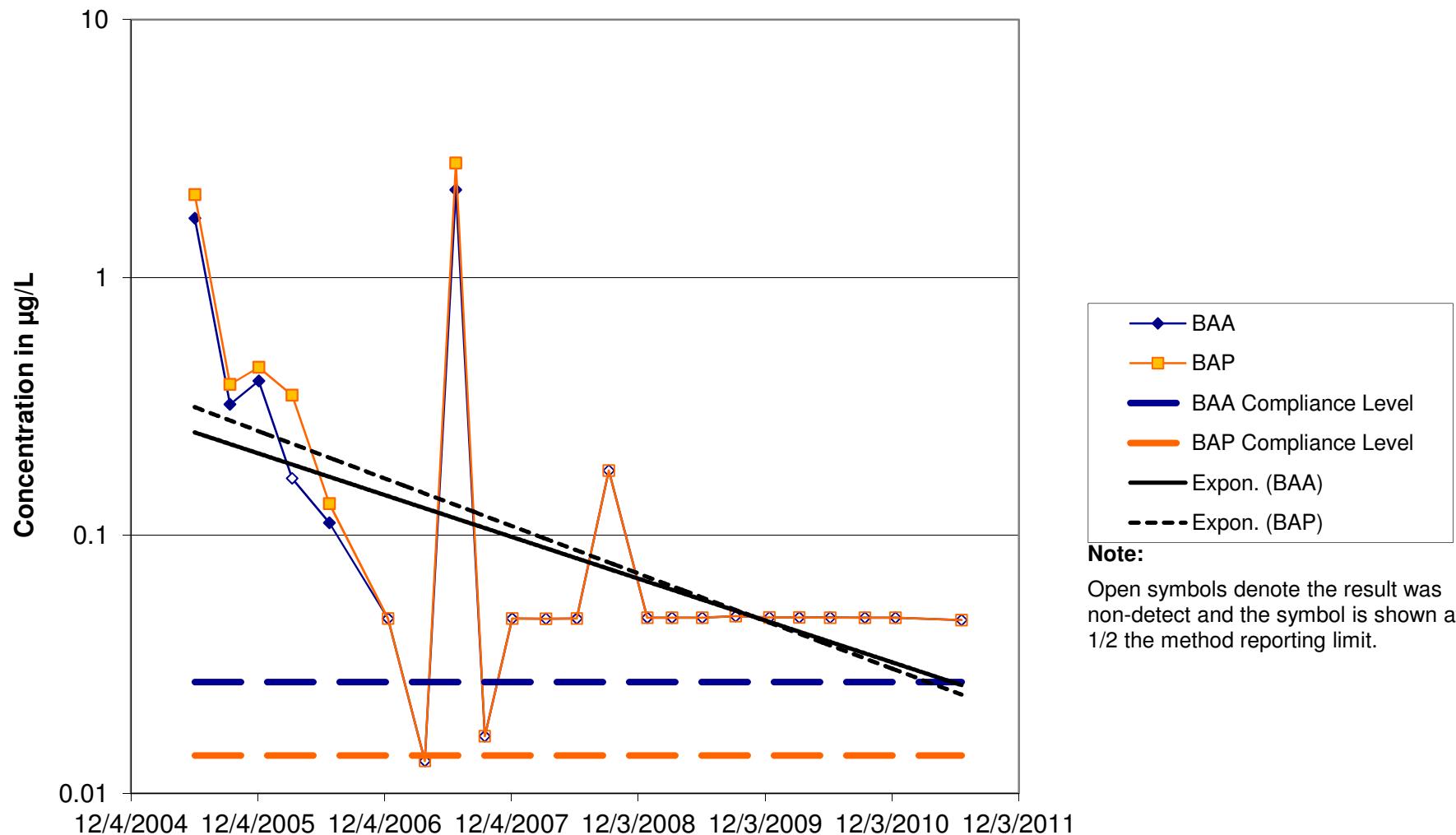
HC-5



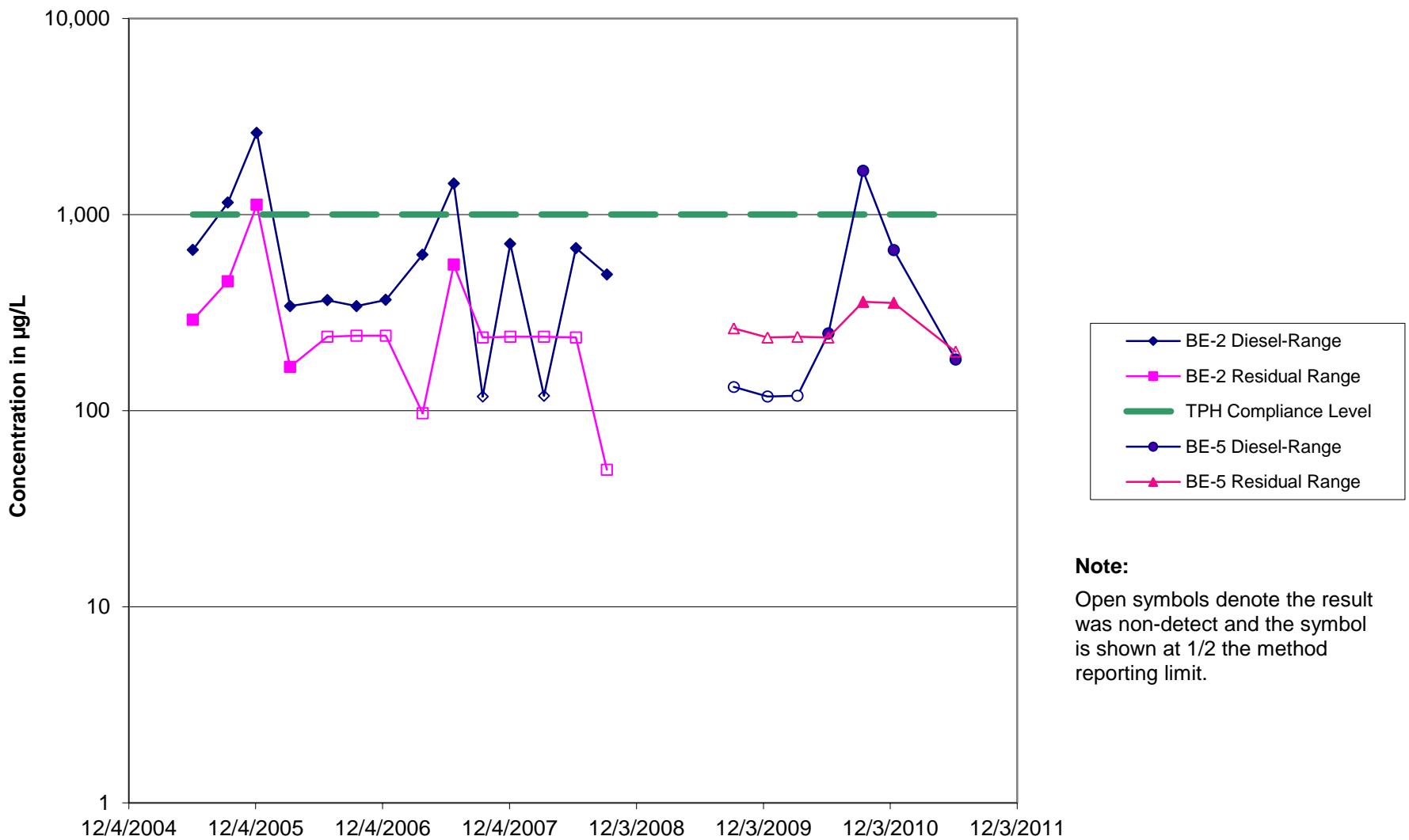
BE-1



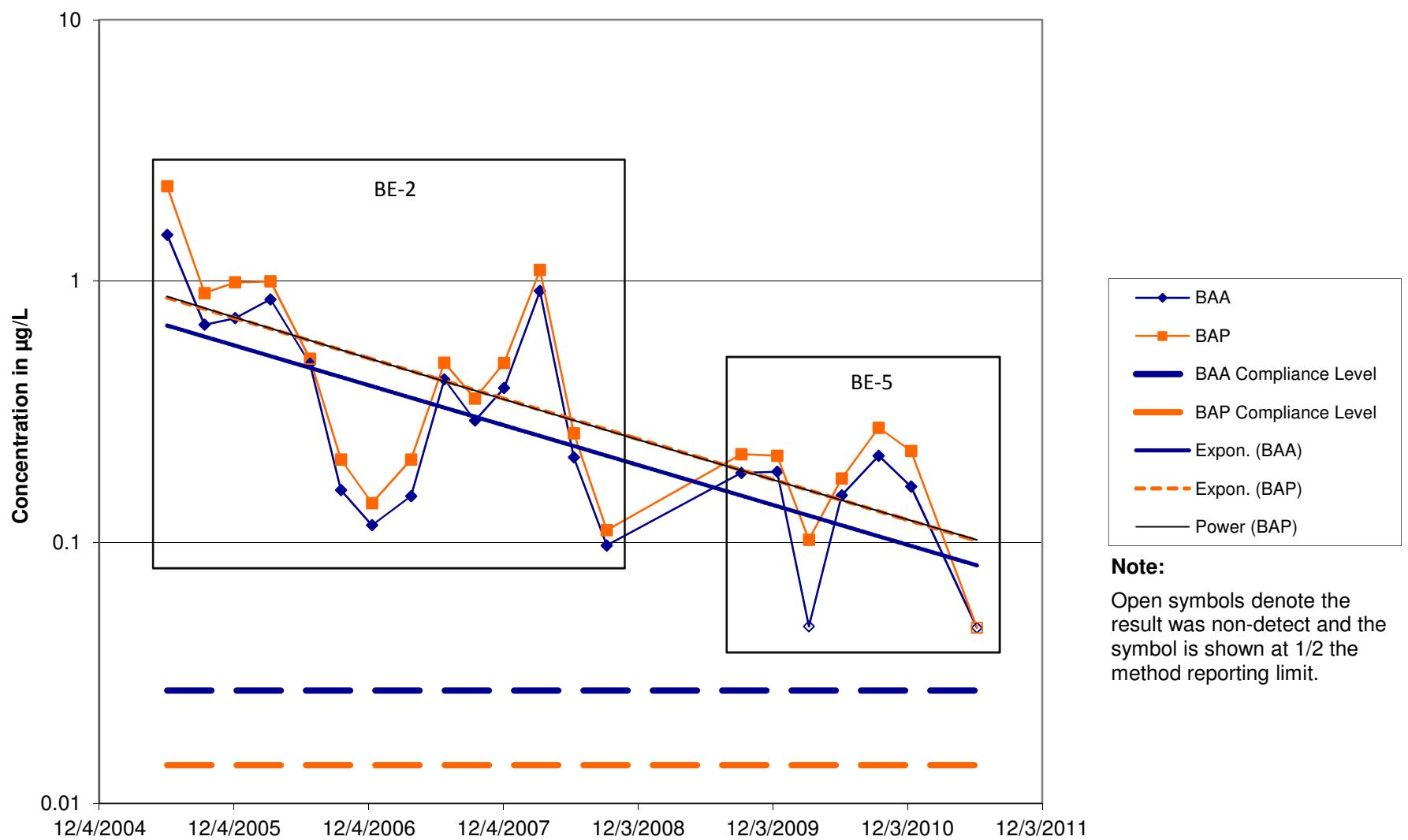
BE-1



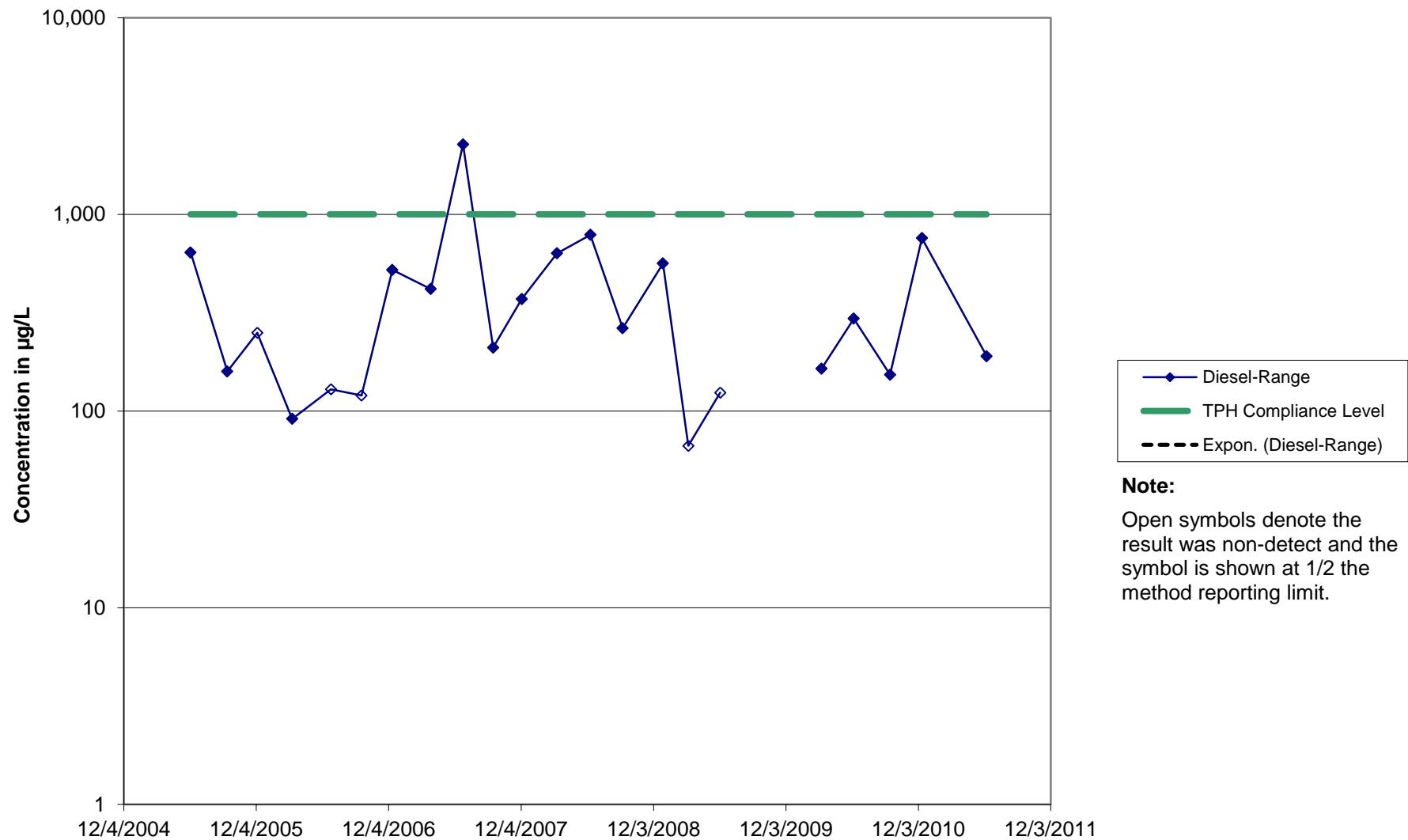
BE-2 and BE-5



BE-2 and BE-5



BE-3



BE-3

